

Communicate via the *Micro network*



Micronet®
Making Communication Easier

2010 January



Micronet Communications Inc.

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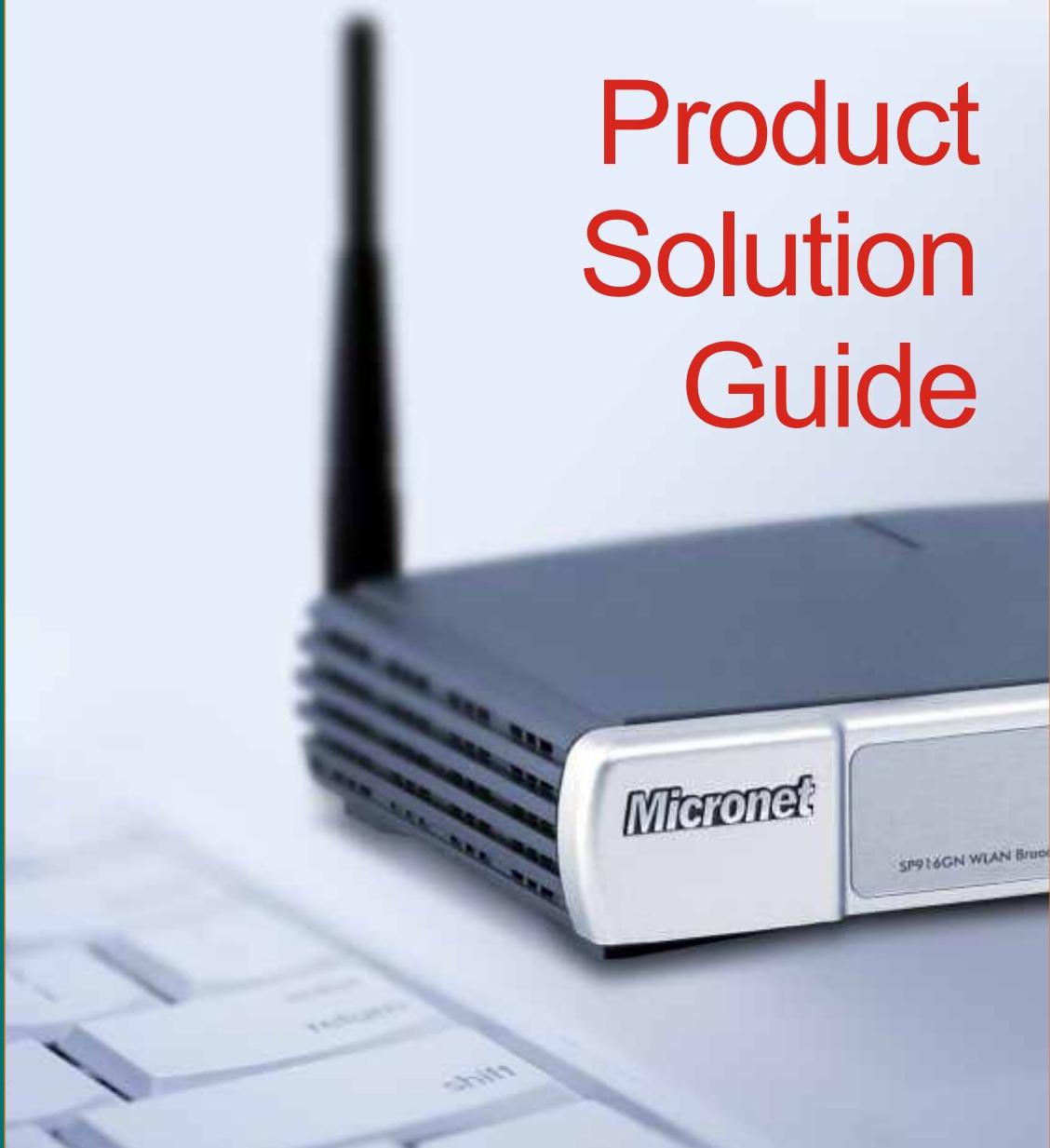
Copyright © 2010 Micronet Communications Inc. is a leading provider of network equipments for home networking, enterprise networking, industrial networking, outdoor networking, and IP telephony, etc. Micronet has more than 200 product items across network arena. Micronet has more than 150 distribution partners in 60+ countries. Since 1992, Micronet has delivered more than tens of millions of connections worldwide.

More information about Micronet can be found on the company's website at www.micronet.info

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Micronet

Product Solution Guide 2010



www.micronet.info

Product Solution Guide

Making Communication Easier

Micronet®
Making Communication Easier



Choosing Micronet As Your Networking Partner

Micronet is a leading company in developing and manufacturing advanced networking solutions for Enterprise, SME, ISP, and SOHO. Since 1992, Micronet has delivered over tens of millions of connections worldwide. Today,

Micronet offers two product groups, the Network Infrastructure Group (NIG) and Application Solution Group (ASG). The NIG includes Wired LAN, Wireless LAN, WAN and System Management product lines. The ASG includes Security, Voice, Surveillance and Server product lines.

Micronet delivers a variety of solutions using Ethernet as a high-performance and cost-effective application. With Micronet Ethernet switches and adapters, the network infrastructure could be easily established, providing SOHO and enterprise users a fast way to network.

Micronet Industrial switches and media converters can be operated in wide operating temperature and cooperated with IP Surveillance, Outdoor Wireless products in extremely harsh environments.

Micronet Wireless LAN solution enables you to build the mobile and flexible connectivity without

cabling hassle. For SOHO, they are able to experience faster wireless transmission. WISP and enterprises can obtain more revenues by providing Internet access service, reducing the cost of wire deployment.

Micronet Broadband Internet solution fits the emerging demand of ADSL broadband communication. Through ISPs or distribution channels, users can easily enjoy Internet access via ADSL modem and router. Micronet also develops VDSL products to fulfill requirements of high performance.

Micronet IP Telephony solution saves your cost of long distance calls. IP Telephony family products offer IP Phone and VoIP Gateway with FXS and FXO interfaces. In addition, Micronet has developed various product lines such as KVM Switch, Print Server, and IP Camera.

Micronet is your best choice when outgrowing your networking business! We are focused on developing and marketing networking products globally, providing customers the most up-to-date technologies at competitive pricing and quality service. What we aim for and what we do is to make communication easier.



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Ethernet Switch

Switch is the core of the network infrastructure, no matter in enterprise/business environment or ISP service area. Micronet provides the full range Switch product line, covering kinds of deployment applications, like FTTx, Fiber Optics, Enterprise Gigabit Ethernet, PoE (Power over Ethernet) Switch, IP DSLAM, VDSL Long-Reach Ethernet, Managed or Unmanaged switches, etc. Our strategy is to fulfill most of the customer applications with best-of-breed product portfolio.

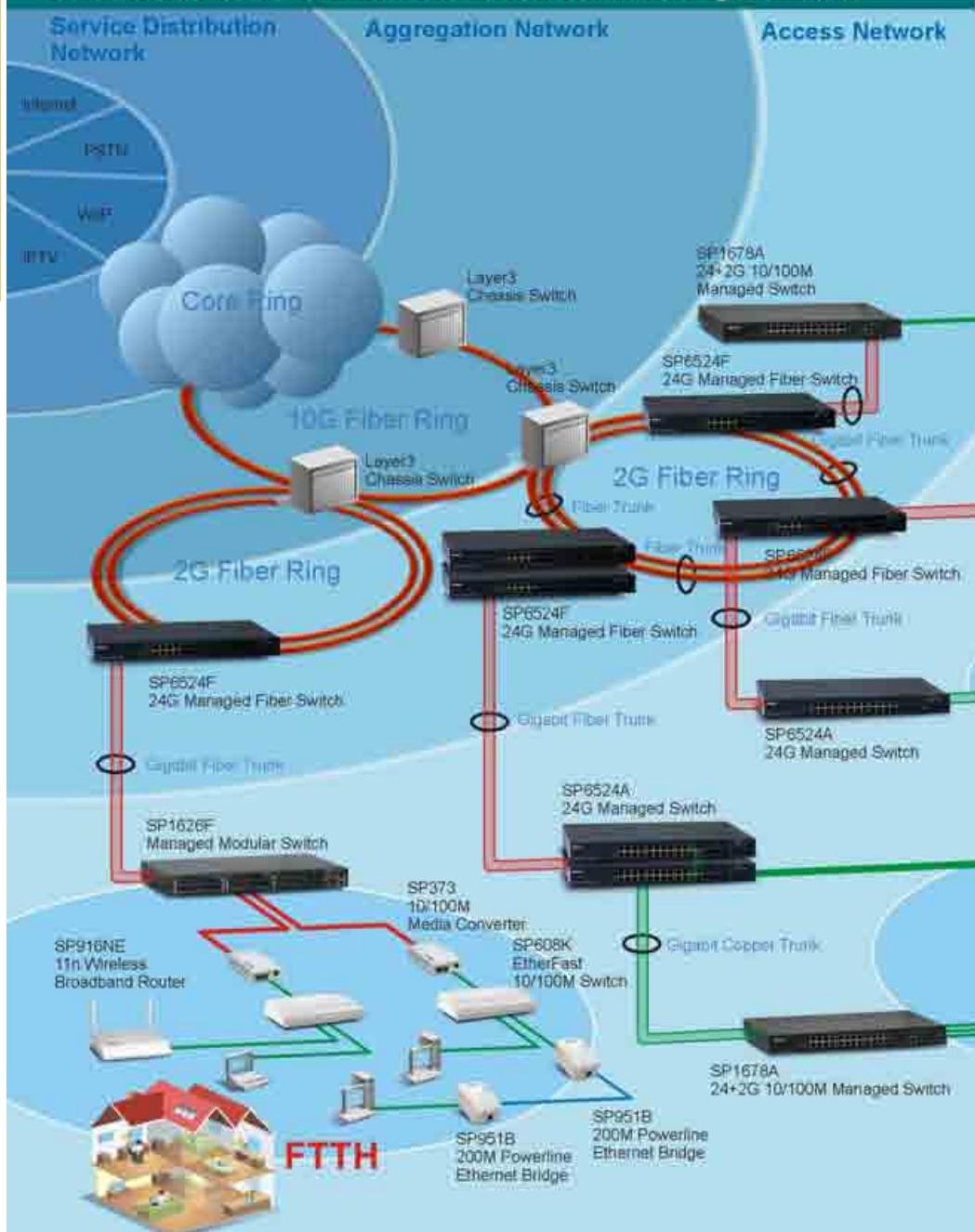
In the past 18 years, Micronet sold millions of ports to customers worldwide. We focus on quality and configuration flexibilities so that the integrators adopt our solutions easily and comfortably. Besides, by providing comprehensive support and technical discussions to our channel partners, Micronet helps to configure for diversified application environments, such as for hospital, building services, construction planning, city infrastructural design, SMB & enterprise, central office and branch office communications, multi-national companies, data center services, etc.

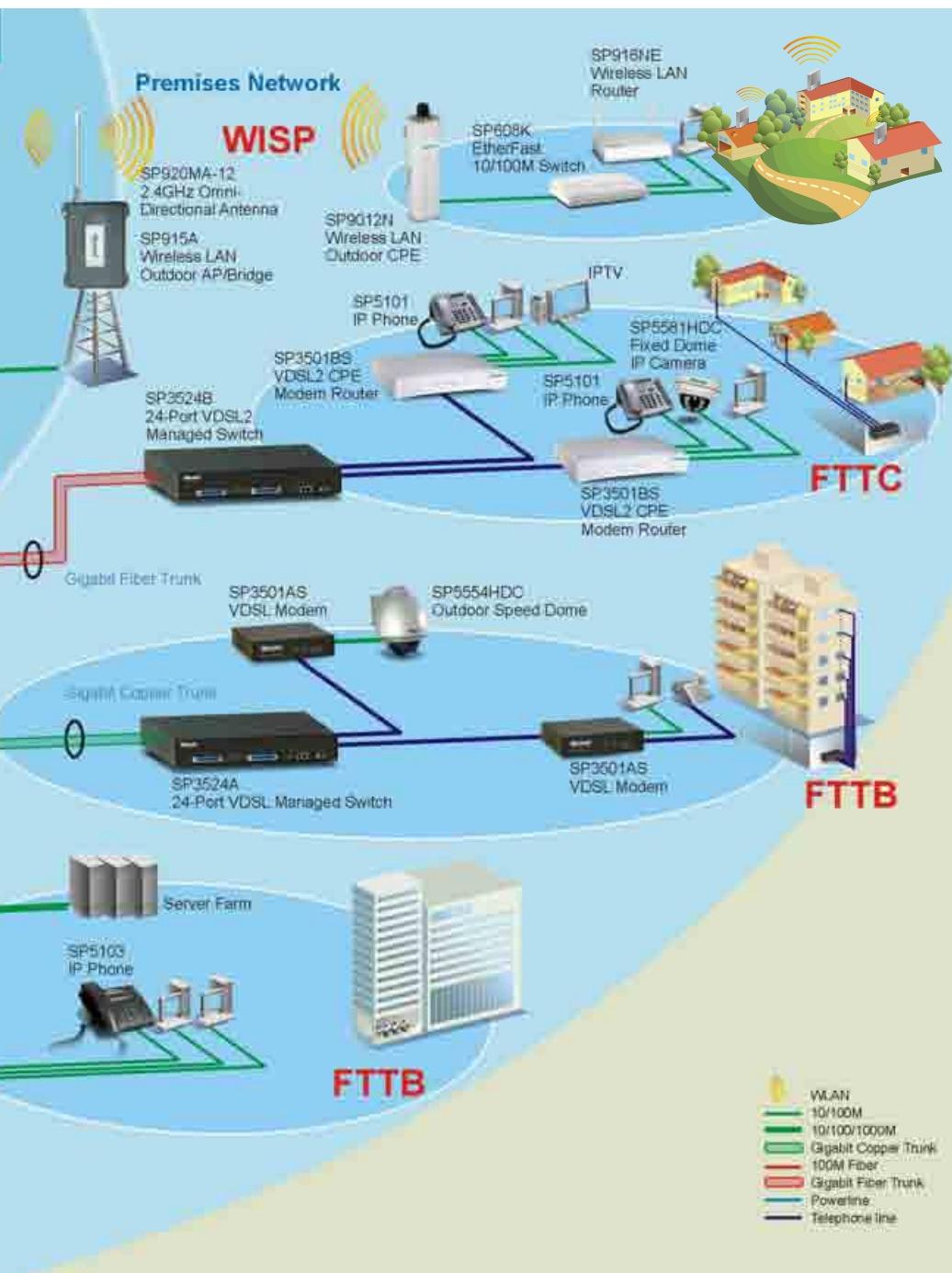
Furthermore, Micronet ASG (Application Solution Group) provides security, voice, surveillance and server product lines. These solutions can be integrated with our Switch product line seamlessly. Customers are free from the compatibility issues and get excellent service and supports, and Micronet greatly reduce the total cost of ownership of the total solution.



Micronet Telecommunication and Networking Solution

Ethernet Switch





10/100M Unmanaged Switch



① LED Indicator
② 10/100M RJ-45 Port
③ Power Jack



① LED Indicator
② 10/100M RJ-45 Port
③ Power Jack

Model No. Description	SP605K 5-Port Switch	SP608K 8-Port Switch
10/100Mbps Port, RJ-45	5	8
10/100Mbps PoE Port, RJ-45	-	-
IEEE 802.3af, PoE Power Budget	-	-
Desktop Installation	■	■
Wall Mounted Installation	■	■
Housing	Plastic	Plastic
Power	DC 5V, 0.6A	DC 5V, 0.6A
Dimension, W x D x H (mm)	164 x 89 x 34	164 x 89 x 34

10/100M Unmanaged Switch



① LED Indicator
② 10/100M RJ-45 Port

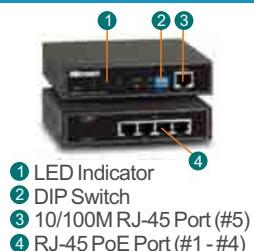
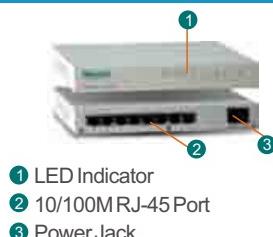


① LED Indicator
② 10/100M RJ-45 Port

Model No. Description	SP616EB 16-Port Switch	SP624EA 24-Port Switch
10/100Mbps Port, RJ-45	16	24
10/100/1000Mbps Port, RJ-45	-	-
Desktop Installation	■	■
Rack Mounted Installation	10"/19"	19"
Housing	Metallic	Metallic
Power	AC 100 - 240V	AC 100 - 240V
Dimension, W x D x H (mm)	216 x 133 x 42	267 x 161 x 44
Option	C610, C619 [*]	-

Note: 1. C610 : 10" Rack Mounting Bracket Set for SP616EB
C619 : 19" Rack Mounting Bracket Set for SP616EB

Desktop



SP608EB
8-Port Switch

8	1	16
-	4	-
-	61.6W	-
■	■	■
-	-	-
Metallic	Metallic	Plastic
AC 100 - 240V	DC 48V, 1.25A	DC 12V, 1.0A
194 x 85 x 25	120 x 90 x 28	290 x 100 x 30

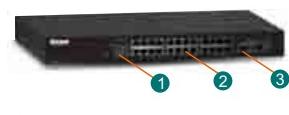
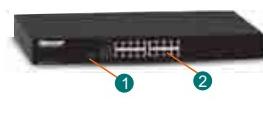
SP6005P4
PoE Unmanaged Switch

1
4

SP616B
16-Port Switch

16
-
-
■
-
Metallic
DC 48V, 1.25A
120 x 90 x 28

Rack Mount



SP616R
16-Port Switch

16	24	24
-	-	2
■	■	■
19"	19"	19"
Metallic	Metallic	Metallic
AC 100 - 240V	AC 100 - 240V	AC 100 - 240V
441 x 130 x 44	441 x 130 x 44	441 x 130 x 44
-	-	SFP Transceiver (Page18)

SP624R
24-Port Switch

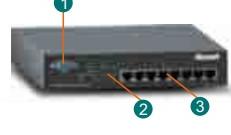
SP659C
24-Port Switch

Unmanaged and Web Smart Switch

Unmanaged



- ① LED Indicator
- ② 10/100/1000M RJ-45
- ③ Power Jack



- ① Console Port
- ② LED Indicator
- ③ 10/100/1000M RJ-45

	Model No. Description	SP6108 8-Port GbE Switch	SP6108WS 8-Port GbE Switch
Hardware	10/100/1000Mbps Port, RJ-45	8	8
	1000Mbps SFP Slot	-	-
	10/100/1000Mbps Auto-Negotiation	■	■
	Auto-Uplink (Auto MDI/MDI-X)	■	■
	Jumbo Frame to Minimize the Packet Overhead	9Kbytes	9Kbytes
Layer2 Feature	Port-based VLAN	-	8 Groups
	IEEE 802.1q, Tag-based VLAN	-	8 Groups
	Port Mirror to Monitor the Traffic of the Source Port	-	-
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-	4 Groups
QoS	Traffic Prioritization among Ports or Services Port-based QoS IEEE 802.1p (CoS) Priority Tag DSCP (DiffServ Code Point) Classifier	-	■ ■
	Priority Queues	-	4
	Bandwidth Control	-	-
Security	ACL (Access Control List)	-	-
	IGMP Multicast Grouping	-	-
Control	Console Management	-	■
	Telnet Management	-	■
	Web-based Management	-	■
	SNMP Network Monitoring	-	■
Installation	Desktop Installation	■	■
	Wall Mounted Installation	■	-
	Rack Mounted Installation	-	-
Others	Power	DC 5V, 2.5A	AC 100 - 240V
	Dimension, W x D x H (mm)	130 x 97 x 24	216 x 133 x 42
	Option	-	-

Web Smart

- ① Console Port
② LED Indicator
③ 10/100/1000M RJ-45



- ① LED Indicator
② 10/100/1000M RJ-45
③ SFP Slot
④ Console Port



- ① LED Indicator
② 10/100/1000M RJ-45
③ SFP Slot
④ Console Port



- ① CPU Indicator
② 10/100/1000M RJ-45
③ SFP Port

Ethernet Switch

SP6108WSF1
8-Port GbE Switch**SP676C**
16-Port GbE Switch**SP684C**
24-Port GbE Switch**SP6148WS**
48-Port GbE Switch

8

16

24

48

1, Shared

4, Shared

4, Shared

4, Shared

■

■

■

■

■

■

■

■

9Kbytes

9Kbytes

9Kbytes

16Kbytes

8 Groups

16 Groups

24 Groups

72 Groups

256 Groups

16 Groups

24 Groups

256 Groups

■

■

■

■

2 Groups

12 Groups

12 Groups

12 Groups

■

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4

4

4

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MAC, IP Address, Application

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AC 100 - 240V

AC 100 - 240V

AC 100 - 240V

AC 100 - 240V

216 x 133 x 42

441 x 130 x 44.1

441 x 130 x 44.1

442 x 248.6 x 44

-

19"

19"

19"

SFP Transceiver (Page18)

10/100M Web Smart Switch

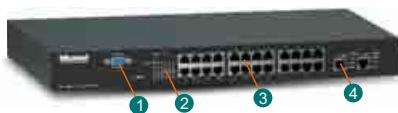
Desktop



- ① Reset Button
- ② LED Indicator
- ③ 10/100M RJ-45 PoE Port

	Model No. Description	SP6008PWS 8-Port PoE Switch
Hardware	10/100Mbps Port, RJ-45	-
	10/100Mbps PoE Port, RJ-45	8
	100Mbps Port, ST/SC	-
	10/100/1000Mbps Port, RJ-45	-
	1000Mbps SFP Slot	-
Layer2 Feature	IEEE 802.3af, PoE Power Budget	120W
	Buffer Memory (Cache Size)	112Kbytes
	Port-based VLAN	8 Groups
	IEEE 802.1q, Tag-based VLAN	-
	Port Mirror to Monitor the Traffic of the Source Port	-
QoS	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-
	Traffic Prioritization Among Ports or Services	-
	Port-based QoS	■
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	■
	ToS (Type of Service) Classifier (Layer 3)	-
Control	Priority Queues	2
	Bandwidth Control	■
	Console Management	-
	Telnet Management	-
Install- ation	Web-based Management	■
	Desktop Installation	■
	Rack Mounted Installation	-
	Power	AC 100 - 240V
Others	Dimension, W x D x H (mm)	266 x 160 x 44
	Option	-

Note : 1. The Port-based and Tag-based VLAN can not work simultaneously

Rack Mount

- ① Console Port
- ② LED Indicator
- ③ 10/100M RJ-45 Port
- ④ 10/100/1000M RJ-45 Port



- ① LED Indicator
- ② 10/100M RJ-45 Port
- ③ SFP Slot
- ④ 10/100/1000M RJ-45 Port

Ethernet Switch

SP659B

24+2GbE-Port Switch

24

-

-

2

-

320Kbytes

26 Groups

-

-

7 Groups

■
■
■

2

■

-

■

■

-

■

AC 100 - 240V

441 x 130 x 44

-

SP6052WS

48+4GbE-Port Switch

48

-

-

4

2, Shared

-

128Kbytes

16 Groups

-

■

6 Groups

■
■
■

2

-

-

■

-

■

AC 100 - 240V

441 x 200 x 44

SFP Transceiver, (Page18)

10/100M Managed Switch

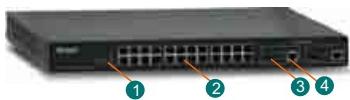
Ethernet Switch



- ① LED Indicator
- ② 1000M SC Port
- ③ 10/100M RJ-45 Port

	Model No. Description	SP6309F1 9-Port GbE Switch
Hardware	10/100Mbps Port, RJ-45	8
	10/100/1000Mbps Port, RJ-45	1
	1000Mbps	-
	1000Mbps Port, SC	1
	10/100Mbps, PoE Port, RJ-45	-
	IEEE 802.3, PoE Power Budget	-
Layer2 Feature	Buffer Memory (Cache Size)	250Kbytes
	Port-based VLAN	4 Groups
	IEEE 802.1Q, Tag-based VLAN	256 Groups
	IEEE 802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	-
	IEEE 802.1w, Rapid Spanning-Tree Protocol for Loop-free Redundant Network	-
	Port Mirror to Monitor the Traffic of the Source Port	■
QoS	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	4 Groups
	Traffic Prioritization among Ports or Services	
	Port-based QoS	-
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	■
	ToS (Type of Service) Classifier (Layer 3)	-
	DSCP (diffServ Code Point) Classifier (Layer 3)	-
Security	Priority Queues	2
	Bandwidth Control	■
	IEEE 802.1x, Network Access Control	■
Control	MAC Address Filter to Control the Access	■
	Stackability (Virtual Stack Management)	■
	Management	Console, Telnet, HTTP, SNMP
Others	MIB (Management Information Base)	■
	Power	AC 100-240V
	Dimension, W x D x H (mm)	250 x 133 x 37
	Option	SFP Transceiver (Page18)

Stackable Ethernet Switch



- ① LED Indicator
 - ② 10/100M RJ-45 Port
 - ③ SFP Slot
 - ④ 10/100/1000M RJ-45 Port

SP1678A
24+2GbE Managed Switch

24	-
2	2
2, Shared	2, Shared
-	-
-	24
-	185W
384Kbytes	384Kbytes
26 Gourps	26 Gourps
256 Groups	256 Groups
■	■
■	■
■	■
■	■
3 Groups	3 Groups
■	■
■	■
■	■
■	■
■	■
4	4
■	■
■	■
■	■
■	■
16 Devices	16 Devices
Console, Telnet, HTTP, SNMP	Console, Telnet, HTTP, SNMP
■	■
AC 100-240V	AC 100-240V
442 x 209 x 44	442 x 336 x 44
SFP Transceiver (Page18)	SFP Transceiver (Page18)

PoE Switch



- ① LED Indicator
 - ② 10/100M RJ-45 Port with PoE
 - ③ SFP Slot
 - ④ 10/100/1000M RJ-45 Port

SP1659P
24+2GbE PoE Managed Switch

24	-
2	2
2, Shared	2, Shared
-	-
-	24
-	185W
384Kbytes	384Kbytes
26 Gourps	26 Gourps
256 Groups	256 Groups
■	■
■	■
■	■
■	■
3 Groups	3 Groups
■	■
■	■
■	■
■	■
■	■
4	4
■	■
■	■
■	■
■	■
16 Devices	16 Devices
Console, Telnet, HTTP, SNMP	Console, Telnet, HTTP, SNMP
■	■
AC 100-240V	AC 100-240V
442 x 209 x 44	442 x 336 x 44
SFP Transceiver (Page18)	SFP Transceiver (Page18)

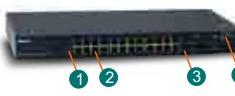
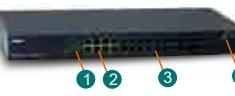
Gigabit Managed Switch

Layer 2



- ① LED Indicator
- ② 10/100/1000M RJ-45 Port
- ③ SFP Slot
- ④ Reset Button

	Model No. Description	SP6508F2 8-Port GbE Switch
Hardware	10/100/1000Mbps Port, RJ-45	8
	1000Mbps	2, Shared
	Buffer Memory (Cache Size)	144Kbytes
Layer2 Feature	Port-based VLAN	8 Groups
	IEEE 802.1q, Tag-based VLAN	256 Groups
	IEEE 802.1q-in-q, Nested (Doubletag) VLAN	■
	Multicast VLAN Management for IPTV	-
	GVRP/GARP, GARP (Generic Attribute Registration Protocol)	■
	Port Mirror to Monitor the Traffic of the Scource Port	Inbound
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	4 Groups
QoS	Traffic Prioritization among Ports or Services IEEE 802.1p (CoS) Priority Tag (Layer 2) ToS (Type of Service) Classifier (Layer 3) TCP/UTP Service Port (Layer 4)	■ ■ ■
	Priority Queues	2
	Bandwidth Control	■
	IGMP (Internet Group Management Protocol)	Snooping/Proxy
	Broadcast/Multicast/Unicast Storm Control	Broadcast/Multicast/Unicast
Security	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	IP-MAC-Port Binding for Access Control	-
DHCP function		DHCP Client
Management	Stackability (Virtual Stack Management)	16 Devices
	Management	Console, Telnet, HTTP, SNMP
	MIB (Management Information Base)	■
Others	Power	AC 100 - 240V
	Dimension, W x D x H (mm)	250 x 133 x 37
	Option	SFP Transceiver (Page18)

Layer 2	Layer 2+	Ethernet Switch
		
<ul style="list-style-type: none"> ① LED Indicator ② TP/SFP Slot ③ Console Port ④ 10/100/1000M RJ-45 Port 	<ul style="list-style-type: none"> ① LED Indicator ② 10/100/1000M RJ-45 Port ③ SFP Slot ④ Console Port 	<ul style="list-style-type: none"> ① LED Indicator ② 10/100/1000M RJ-45 Port ③ SFP Slot ④ Console Port
SP6509F1 9-Port GbE Switch	SP6524A 24GbE Managed Switch	SP6524F 24GbE Managed Switch
9	24	8, Shared
1, Shared	4, Shared	24
125Kbytes	1392KBytes	1392KBytes
9 Groups	24 Groups	24 Groups
256 Groups	256 Groups	256 Groups
■	■	■
-	■	■
■	■	■
Inbound/Outbound	Inbound/Outbound	Inbound/Outbound
4 Groups	12 Groups	12 Groups
■	■	■
■	■	■
-	■	■
4	4	4
■	■	■
Snooping	Snooping/Proxy	Snooping/Proxy
	Broadcast/Multicast/Unicast	
■	■	■
-	-	■
-	■	■
DHCP Server/Client	DHCP Relay	DHCP Relay
16 Devices	16 Devices	16 Devices
Console, Telnet, HTTP, SNMP		
■	■	■
AC 100 - 240V	AC 100 - 240V	AC 100 - 240V
250 x 133 x 37	442 x 209 x 44	442 x 209 x 44
SFP Transceiver (Page18)		

Modular Switch

Smart



- ① Reset Button
- ② Expansion Slot
- ③ Console Port
- ④ Power Jack

Managed



- ① LED Indicator
- ② Console Port
- ③ Expansion Slot
- ④ Power Jack

	Model No. Description	SP617 Smart Modular Switch	SP1626F Managed Modular Switch
Hardware	Slot for Optional M200 Series Module	2	3
	Slot for Optional M320 Series Module	1	-
	10/100/1000Mbps Port, RJ-45 / 1000Mbps SFP Slot	-	2, Shared
	Max. Ports of 100Mbps	17	24
	Stackability by VSM (Virtual Stack Management)	-	■
Layer2 Feature	Port Mirror to Monitor the Traffic of the Source Port	-	■
	IEEE 802.3ad Link Aggregation to Increase the Bandwidth between the Linked Devices	1	■
	Port-based VLAN	16 Groups	24 Groups
	IEEE 802.1q, Tag-based VLAN	-	256 Groups
	IEEE 802.1q-in-q, Nested (Double Tag) VLAN	-	■
QoS	GVRP (GARP VLAN Registration)*	-	■
	IEEE 802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	-	■
	IEEE 802.1w, Rapid Spanning Tree Protocol for Loop-free Redundant Network	-	■
	Traffic Prioritization among Ports or Services	-	■
	Port-based QoS	-	■
Others	IEEE 802.1p (CoS) Priority Tag (Layer 2)	-	■
	DSCP (DiffServ Code Point) Classifier (Layer 3)	-	■
	Priority Queue	-	4
Others	Broadcast Storm Control	-	■
	IGMP Snooping & Filtering	-	■
	Management	Console	Console, Telenet, HTTP, SNMP
Others	Power	AC 100 - 240V	AC 100 - 240V
	Dimension, W x D x H (mm)	440 x 285 x 45	442 x 281 x 44
Others	Option	Optional Module	

Model No. Description	Module for SP617 Smart Modular Switch	Module for SP1626F Managed Modular Switch
Modules	Model No.	
Optional Module		—
8-port 10/100Mbps (RJ-45)	M208	—
8-port 100Base-FX (ST/MM)	M208A	M218A
8-port 100Base-FX (SC/MM)	M208B	M218B
6-port 10/100Mbps (RJ-45) + 2-port 100Base-FX (ST/MM)	M262A	—
6-port 10/100Mbps (RJ-45) + 2-port 100Base-FX (SC/MM)	M262B	—
8-port 100Base-FX (SC/SM, 20KM)	—	M218B-20
SFP	1-port 100Base-FX (SC/SM, 40KM)	M320B-40
1-port 1000Base-SX SFP	—	M363A Series
1-port 1000Base-LX SFP	—	M363B Series

Note: GVRP (GARP VLAN Registration Protocol):

Use GARP(Generic Attribute Registration Protocol) to auto-config VLAN information on switches.

SFP Transceiver

1.25G SFP Transceiver



① LC Connector
② Protective Cap

Model No. Description	M363A SFP Transceiver	M363A-2 SFP Transceiver	M363B-10 SFP Transceiver
IEEE 802.3z, 1000BASE-SX	■	■	-
IEEE 802.3z, 1000BASE-LX	-	-	■
Wave Length (nm)	850nm	1310nm	1310nm
Optical Power (dBm)	-19.5~ -4	-9~ -1	-9.5~ -3
Sensitivity (dBm)	-20	-19	-20
Distance	550m	2KM	10KM

SFP Transceiver

1.25G Bi-Directional SFP Transceiver



① LC Connector
② Protective Cap

Model No. Description	M367A-10 SFP Transceiver	M367A-20 SFP Transceiver	M367A-40 SFP Transceiver
IEEE 802.3z, 1000BASE-SX	-	-	-
IEEE 802.3z, 1000BASE-LX	■	■	■
Wave Length (nm)	T1310/R1550 nm		
Optical Power (dBm)	-9 ~ -3	-8 ~ -2	-3 ~ +2
Sensitivity (dBm)	-20	-23	-23
Distance	10KM	20KM	40KM



- ① LC Connector
② Protective Cap

M363B-20 SFP Transceiver	M363B-40 SFP Transceiver	M363B-60 SFP Transceiver	M363B-80 SFP Transceiver	M363B-120 SFP Transceiver
-	-	-	-	-
■	■	■	■	■
1310nm	1310nm	1550nm	1550nm	1550nm
-8~ -2	-2~ +3	-2~ +3	0~ +5	0~ +5
-23	-23	-23	-24	-30
20KM	40KM	60KM	80KM	120KM



- ① LC Connector
② Protective Cap

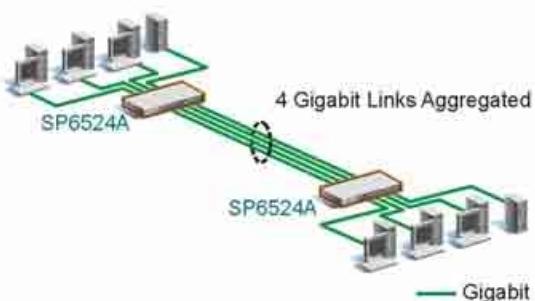
M367B-10 SFP Transceiver	M367B-20 SFP Transceiver	M367B-40 SFP Transceiver
-	-	-
■	■	■
T1550/R1310 nm		
-9 ~ -3	-8 ~ -2	-3 ~ +2
-20	-23	-23
10KM	20KM	40KM

Technical Notes

Link Aggregation

Link aggregation, or IEEE 802.3ad, is a networking term which describes using multiple Ethernet network cables/ports in parallel to increase the link speed beyond the limits of any one single cable or port, and to increase the redundancy for higher availability.

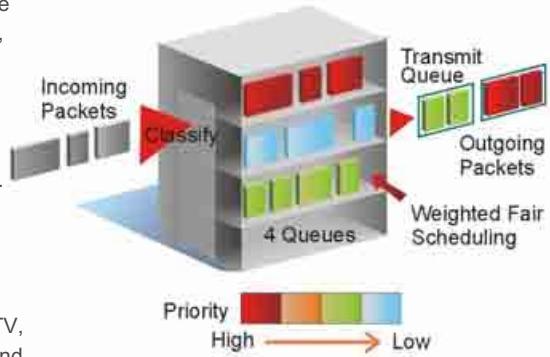
A limitation of link aggregation is that all physical ports in the link aggregation group must reside on the same switch.



QoS

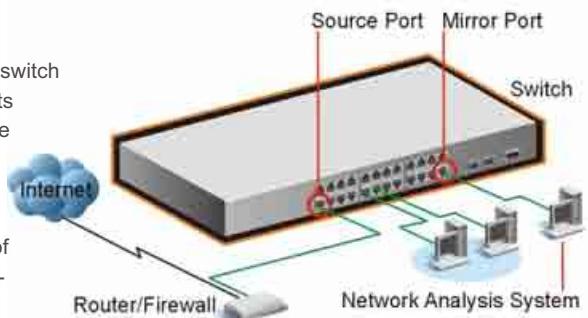
Quality of Service is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow. For example, a required bit rate, delay, jitter, packet dropping probability and/or bit error rate may be guaranteed.

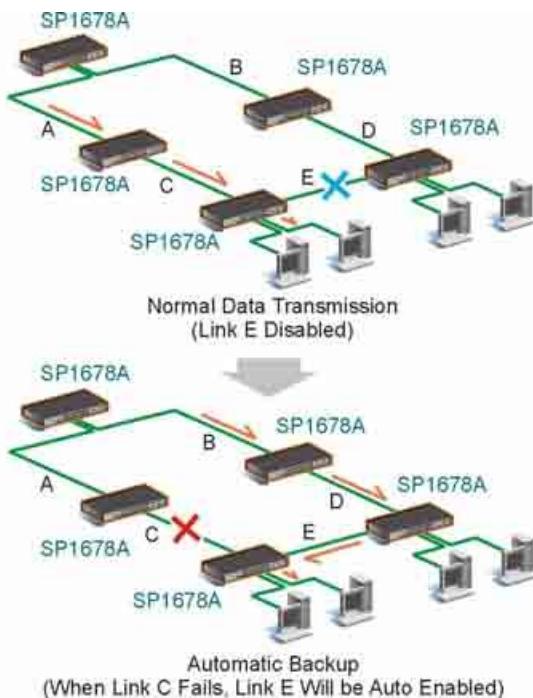
Quality of service guarantees are important if the network capacity is insufficient, especially for real-time streaming multimedia applications such as Voice over IP, online games and IP-TV, since these often require fixed bit rate and are delay sensitive, and in networks where the capacity is a limited resource, for example in cellular data communication.



Port Mirror

Port mirroring is used on a network switch to send a copy of all network packets seen on one switch port (or an entire VLAN) to a network monitoring connection on another switch port. This is commonly used for network appliances that require monitoring of network traffic, such as an intrusion-detection system.

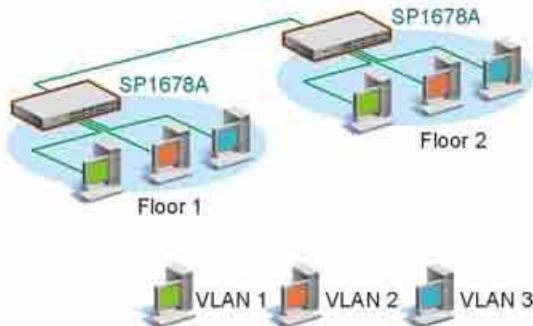




Spanning Tree

The Spanning Tree Protocol (STP) is an OSI layer-2 protocol that ensures a loop-free topology for any bridged LAN. Spanning tree allows a network design to include spare (redundant) links to provide automatic backup paths if an active link fails, without the danger of bridge loops, or the need for manual enabling/disabling of these backup links. Bridge loops must be avoided because they result in flooding the network.

The Spanning Tree Protocol is defined in the IEEE Standard 802.1D. It creates a spanning tree within a mesh network of connected layer-2 bridges (typically Ethernet switches), and disables those links that are not part of the tree, leaving a single active path between any two network nodes.



VLAN

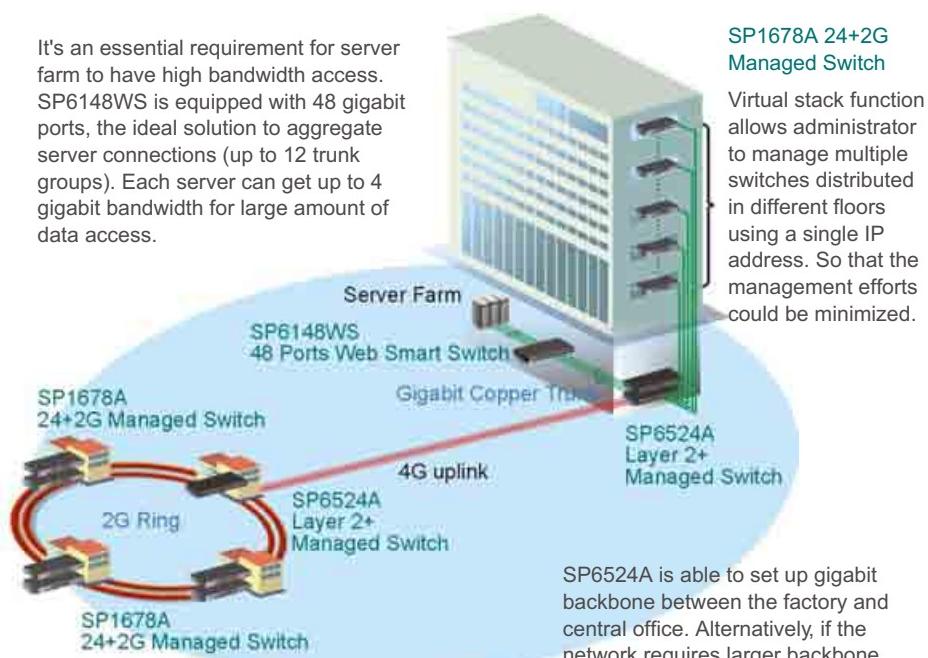
A virtual LAN, commonly known as a VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the Broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical LAN, but it allows the end stations to be grouped together even if they are not located on the same network switch. Network reconfiguration can be done through software instead of physically relocating devices.

VLANs give you the ability to create "virtual" switches inside a switch to help decrease broadcast traffic and to increase security.

Enterprise Backbone For Wide Area District Networks Integration

It is common that offices and factories are distributed in wide area. In order to integrate enterprise's competitive advantage and know-how, it is critical to enhance the communication among all departments. Micronet Enterprise Switch family provides the cost-effective solution for network integration required by businesses. The application is suitable for campus, airport, military base, hospital and factory.

It's an essential requirement for server farm to have high bandwidth access. SP6148WS is equipped with 48 gigabit ports, the ideal solution to aggregate server connections (up to 12 trunk groups). Each server can get up to 4 gigabit bandwidth for large amount of data access.



Both SP6524A and SP1678A support port trunk and spanning tree features. The two switches are ideal for constructing the network distribution ring. The ring configuration is fault-tolerant for fiber disconnection, and will make the mission-critical tasks more robust. SP1678A provides two Uplink Gigabit ports for the distribution ring and 24 10/100M ports for dispersing to each terminal.

SP1678A 24+2G Managed Switch

Virtual stack function allows administrator to manage multiple switches distributed in different floors using a single IP address. So that the management efforts could be minimized.

SP6524A is able to set up gigabit backbone between the factory and central office. Alternatively, if the network requires larger backbone bandwidth higher than 2GMbps, SP6524F would be the ideal product. The model is equipped with 24-port of fiber connections and supports up to 8G port trunk.

Gigabit Ethernet Copper
Gigabit Ethernet Fiber



Industrial Ethernet

Micronet industrial switches and media converters can be operated in a wide operating temperature of -40 to 75°C and are designed for applications in extremely harsh environments, such as ITS (Industrial Transportation Systems), MRT Station Automation, Hospitality, and Factory Assembly Line Automation, etc.

Besides, most Micronet industrial switches also provide redundant power with polarity reverse protection, two mounting mechanism and fast network recovery significant features in addition to wide operating temperature. These key features are not easily replaced by normal commercial switches.

Especially, the Micronet managed industrial switch equipped with a redundant Ethernet protocol called M-Ring; it gives the whole environment connection a very convenient way to maintain a 24 times 7 workforces without any activity failure. With Micronet M-Ring solution, your environment will always be kept running and can be recovered very fast in just a few milliseconds.

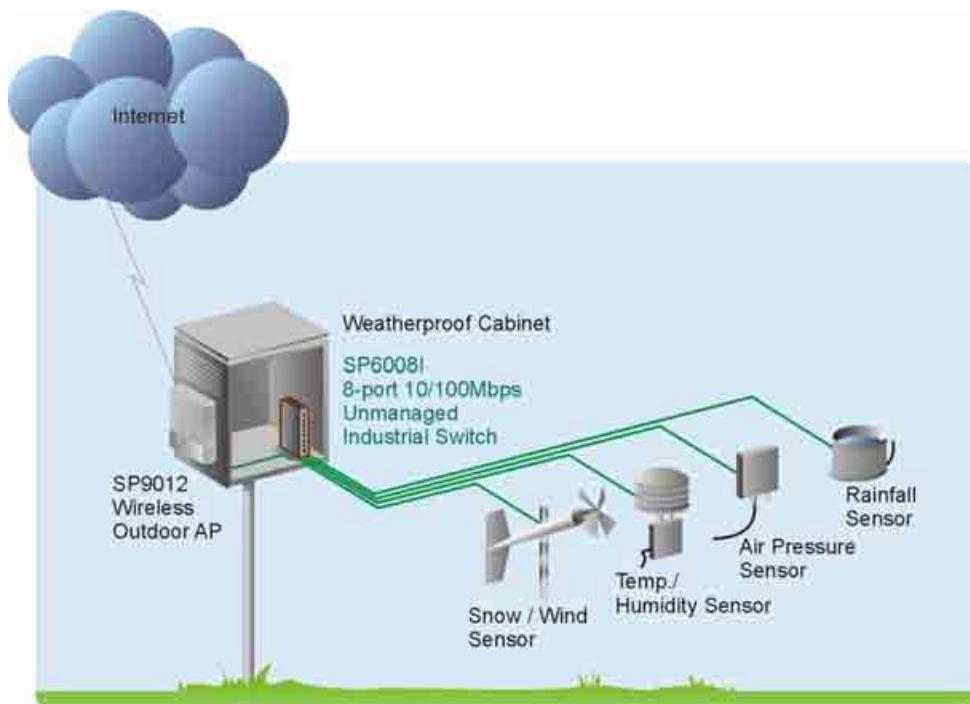


Weather Inspection

Against harsh environment and Increase reliability by industrial switch at outdoor

In this scenario, unmanned weather stations play an essential role in the effort to analyze and predict the world's ever-changing weather patterns. The unmanned stations collect and store large amounts of weather data and then upload the data at regular intervals to a back-end host for analysis and long-term storage. With wide operating

temperature, redundant power and aluminum case of IP30 level protection features, SP6008I 8-port 10/100Tx Unmanaged Industrial Switch is able to work in this harsh environment to ensure all important data is gathered and transmitted. Due to reliability, SP6008I is used generally in outdoor application with another industrial devices.



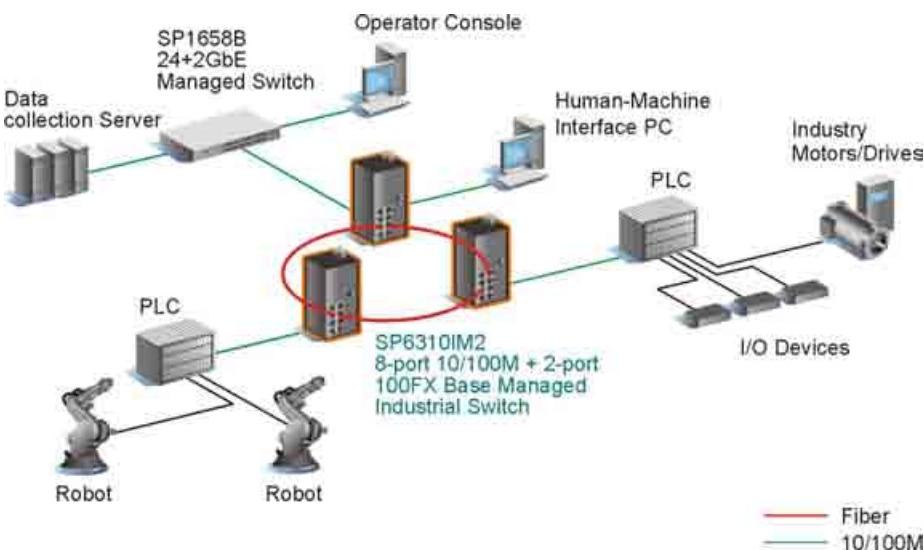
Manufacturing Automation

Optimized manufacturing with reliable Industrial Switch at factory

Automation has kept manufacturer competitive, but it can be difficult to achieve reliable communication amongst the specialized devices and protocols. In this scenario, SP6310IM2 8-port 10/100Tx + 2-port 100Fx Base Managed Industrial Switch plays the role of key to connect with PLC (Programmable Logic Controller), robots and central management system. With M-Ring technology, the redundancy connection of SP6310IM2 will recover the network automatically within 20ms. In order to cooperate with another brand of industrial

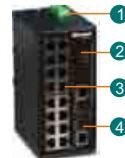
switch, SP6310IM2 also provides STP (802.1d) and RSTP (802.1W) industry-standard reconnection protocol to minimize network down time and guarantee network resilience.

Moreover, SP6310IM2 supports multiple security methods to prevent malicious attack, such as Port Security, IP Security and Login Security. In management, SNMP, SMTP email alert, relay alarms and system log features are useful for administrator to increase monitor efficiency.



Unmanaged Switch

Unmanaged Switch



- ① Terminal Block
- ② LED Indicator
- ③ 10/100M RJ-45 Port
- ④ SFP Slot

SP6018IC2
16-port 10/100M+ 2-port
Gigabit Combo Industrial Switch

	Model No.	Description
Interface	10/100Mbps Port, RJ-45	16
	10/100/1000Mbps Port, RJ-45	2
	1000M SFP Slot(Shared)	2
	100Base-FX Port	-
	Auto-Negotiation	■
	Auto-Uplink (Auto MDI-MDI-X)	■
	Optical Cable	Multi-mode: 50/125μm~ 62.5/125μm Single-mode: 9/125μm
Hardware	Protocol	CSMA/CD
	Switching Fabric	7.2Gbps
	Packet Throughput Ability	10.7Mpps@64bytes
	Transfer Rate	14,880pps for Ethernet port/148,800pps for Fast Ethernet port/1,488,000pps for Gigabit Fiber Ethernet port
Safety	Memory Buffer	1Mbits
	MAC Address	8K
	Broadcast Storm Protection	-
	EFT Protection for Power Line	3000V DC
	Ethernet ESD Protection	6000V DC
Power	Terminal Block	DC 12-48V
	Power Consumption	9 Watts
	Power Redundant Design	■
	Power Polarity Reverse Protection	■
Environment	Operating Humidity	5%~95%(Non-condensing)
	Operating Temperature	- 10-60°C
	Storage Temperature	- 40-85°C
Others	DIN Rail Installation	■
	Wall Mount Installation	■
	Dimension, W x D x H (mm)	72 x 105 x 152
	Option	SP6018HC2, -40-75°C

Unmanaged Switch

- ① Terminal Block
② LED Indicator
③ 10/100M RJ-45 Port



- ① Terminal Block
② 100Base-FX Port
③ 10/100M RJ-45 Port



- ① Terminal Block
② LED Indicator
③ 10/100M RJ-45 Port

SP6008I
8-port 10/100M
Industrial Switch**SP6006IS2**
4-port 10/100M + 2-port
100Base-FX Industrial Switch**SP6005IS1**
4-port 10/100M + 1-port
100Base-FX Industrial Switch

8

4

4

-

-

-

-

-

-

-

-

-

■

■

■

■

■

■

-

Single-mode: 9/125µm

Single-mode: 9/125µm

CSMA/CD

CSMA/CD

CSMA/CD

1.6Gbps

1.2Gbps

1Gbps

2.38Mpps@64bytes

1.488Mpps@64bytes

1.49Mpps@64bytes

14,880pps for Ethernet port/
148,800pps for Fast
Ethernet port14,880pps for Ethernet port/
148,800pps for Fast
Ethernet port14,880pps for Ethernet port/
148,800pps for Fast
Ethernet port

448Kbits

448Kbits

448Kbits

2K

2K

2K

■

■

■

3000V DC

3000V DC

3000V DC

4000V DC

6000V DC

6000V DC

DC 12-48V

DC 12-48V

DC 12-48V

4.71 Watts

6.41 Watts

4.2 Watts

■

■

■

■

■

■

5%~95% (Non-condensing)

5%~95% (Non-condensing)

5%~95% (Non-condensing)

- 10-60°C

- 10-60°C

- 10-60°C

- 40-85°C

- 40-85°C

- 40-85°C

■

■

■

■

■

■

30 x 95 x 140

30 x 95 x 140

30 x 95 x 140

SP6008H, -40-75°C

SP6006HS2, -40-75°C

SP6005HS1, -40-75°C

Unmanaged Switch



- ① Terminal Block
② LED Indicator
③ 10/100M RJ-45 Port with PoE

Model No. Description		SP6005IP4 5-port 10/100M Industrial Switch with 4-port PoE
Interface	10/100Mbps Port, RJ-45	5 (4-port PoE Support)
	10/100/1000Mbps Port, RJ-45	-
	1000M SFP Slot (Shared)	-
	100Base-FX Port	-
	Auto-Negotiation	■
	Auto-Uplink (Auto MDI-MDI-X)	■
	Optical Cable	-
	Protocol	CSMA/CD
	Switching Fabric	1Gbps
	Packet Throughput Ability	1.49Mpps@64bytes
Hardware	Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port
	Memory Buffer	448Kbits
	MAC Address	2K
	Broadcast Storm Protection	■
Safety	EFT Protection for Power Line	3000V DC
	Ethernet ESD Protection	6000V DC
Power	Terminal Block	DC 48V
	Power Consumption	57 Watts (Full load with PoE)
	Power Redundant Design	■
Environment	Power Polarity Reverse Protection	■
	Operating Humidity	5%~95% (Non-condensing)
	Operating Temperature	-10~60°C
	Storage Temperature	-40~85°C
Others	DIN Rail Installation	■
	Wall Mount Installation	■
	Dimension, W x D x H (mm)	30 x 95 x 140
	Option	SP6005HP4, -40~75°C

Unmanaged Switch

- ① Terminal Block
② LED Indicator
③ 10/100/1000M RJ-45 Port



- ① Terminal Block
② LED Indicator
③ 10/100/1000M RJ-45 Port

SP6108I
8-port 10/100/1000M Industrial Switch

SP6105I
5-port 10/100/1000M Industrial Switch

-	-
8	5
-	-
-	-
■	■
■	■
■	■
-	-
CSMA/CD	CSMA/CD
16Gbps	10Gbps
23.8Mpps@64bytes	14.88Mpps@64bytes
14,880pps for Ethernet port/148,800pps for Fast Ethernet port/1,488,000pps for Gigabit Fiber Ethernet port	14,880pps for Ethernet port/148,800pps for Fast Ethernet port/1,488,000pps for Gigabit Fiber Ethernet port

176Kbytes	136Kbytes
8K	8K
■	■
3000V DC	3000V DC
6000V DC	6000V DC
DC 12-48V	DC 12-48V
7.788 Watts@12V, 7.392 Watts@48V	4.6 Watts
■	■
■	■

5%~95% (Non-condensing)	5%~95% (Non-condensing)
- 10-60°C	- 10-60°C
- 40-85°C	- 40-85°C
■	■
■	■
30 x 95 x 140	30 x 95 x 140
SP6108H, -40-75°C	SP6105H, -40-75°C

Managed Switch



Model No.		SP6318IC2
Description		16-port 10/100M + 2-port Gigabit Combo Managed Industrial Switch
Interface	10/100Mbps Port, RJ-45	16
	10/100/1000Mbps Port, RJ-45	2
	1000M SFP Slot (Shared)	2
	100Base-FX Port	-
Hardware	Optical Cable	Multi-mode: 50/125µm~ 62.5/125 µm, Single-mode: 9/125µm
	Switching Fabric	7.2Gbps
	Packet Throughput Ability	10.7Mpps@64bytes
	Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port
Safety	Memory Buffer	1Mbits
	MAC Address	8K
	Port Security	100 MAC Address Entires/Filter
	IP Security	10 IP authorization
Feature	Login Security	IEEE802.1x/RADIUS
	M-Ring, Dual Homing, Ring Coupling Topology	Recovery Time <20ms
	IEEE802.1w Rapid Spanning Tree Protocol	■
	VLAN	Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)
QoS	Port Trunk with LACP	4 Trunk Groups & Members
	Port Mirror	3 Types: RX, TX and Both
	IGMP	IGMP Snooping v1/v2, 256 Multicast groups and IGMP query
	DHCP	DHCP Client/Server
Control	DNS	DNS Client and Primary/Secondary DNS Server
	Traffic Prioritization among Ports or Services	Determined by Port, Tag and IPv4 Type of Server, Support IEEE802.1p and Bandwidth Control
	SNMP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB
	Management	SNMP v1, v2c, v3/Web/Telnet/CLI/NS-View
Environment	Terminal Block	DC 12-48V
	Power Consumption	11.5 Watts
	Power Redundant & Polarity Reverse Protection	■
	Operating Humidity	5%~95% (Non-condensing)
Others	Operating Temperature	-10-60°C
	Installation	DIN Rail & Wall Mount
	Dimension, W x D x H (mm)	72 x 105 x 152
Option		SP6318HC2, -40-75°C

Managed Switch



- ① Terminal Block
- ② 10/100M RJ-45 LAN Port
- ③ Console Port
- ④ 100Base-FX Port

SP6310IM2

8-port 10/100M + 2-port 100Base-FX Managed Industrial Switch

8

-

-

2

Multi-mode: 50/125 μ m~62.5/125 μ m

1.6Gbps

2.38Mpps@64bytes

14,880pps for Ethernet port 148,800pps for Fast Ethernet port

1Mbits

8K

100 MAC Address Entries/Filter

10 IP authorization

IEEE802.1x/RADIUS

Recovery Time <20ms

■

Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)

4 Trunk Groups & Members

3 Types: RX, TX and Both

IGMP Snooping v1/v2, 256 Multicast groups and IGMP query

DHCP Client/Server, IP Relay

DNS Client and Primary/Secondary DNS Server

Determined by Port, Tag and IPv4 Type of Server,
Support IEEE802.1p and Bandwidth Control

RFC 1215 Trap, RFC1213 MIBII, RFC 1157 SNMP MIB, RFC1493 Bridge MIB,
RFC 2674 VLAN MIB, RFC1643, RFC 1757, RSTP MIB, Private MIB

SNMP v1, v2c, v3/Web/Telnet/CLI/NS- View

DC 12-48V

11.28 Watts

■

5%~95% (Non-condensing)

-10-60°C

DIN Rail & Wall Mount

72 x 105 x 152

SP6310HM2, -40-75°C

Managed Switch

Model No. Description		SP6310IC2 8-port 10/100M + 2-port Gigabit Combo Managed Industrial Switch
Interface	10/100Mbps Port, RJ-45 10/100/1000Mbps Port, RJ-45 1000M SFP Slot (Shared) 100Base-FX Port	8 2 2 -
Hardware	Optical Cable Switching Fabric Packet Throughput Ability Transfer Rate	Multi-mode: 50/125μm~ 62.5/125μm, Single-mode: 9/125μm 5.6Gbps 8.3Mpps@64bytes 14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port
Safety	Memory Buffer MAC Address Port Security IP Security Login Security	1Mbits 8K 100 MAC Address Entries/Filter 10 IP authorization IEEE802.1x/RADIUS Recovery Time <20ms
Feature	M-Ring, Dual Homing, Ring Coupling Topology IEEE802.1w Rapid Spanning Tree Protocol VLAN	■ ■ Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)
	Port Trunk with LACP Port Mirror	4 Trunk Groups & Members 3 Types: RX, TX and Both
	IGMP DHCP DNS	IGMP Snooping v1/v2, 256 Multicast groups and IGMP query DHCP Client/Server DNS Client and Primary/Secondary DNS Server
QoS	Traffic Prioritization among Ports or Services	Determined by Port, Tag and IPv4 Type of Servier, Support IEEE802.1p, per port provides 4 priority queues
Control	SNMP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB
	Management	SNMP v1, v2c, v3/Web/Telnet/CLI/NS-View
Environment	Terminal Block Power Consumption	DC 12-48V 9.5 Watts ■
	Power Redundant & Polarity Reverse Protection	
	Operating Humidity	5%~95% (Non-condensing)
	Operating Temperature	-10-60°C
Others	Installation Dimension, W x D x H (mm) Option	DIN Rail & Wall Mount 72 x 105 x 152 SP6310HC2, -40-75°C



Managed Switch



- ① Terminal Block
- ② SFP Slot
- ③ Console Port
- ④ 10/100M RJ-45 LAN Port

SP6310IPC2

8-port 10/100M + 2-port Gigabit Combo Managed Industrial Switch with PoE

8 (PoE)

2

2

-

Multi-mode: 50/125μm~ 62.5/125μm, Single-mode: 9/125μm

5.6Gbps

8.3Mpps@64bytes

14,880pps for Ethernet port 148,800pps for Fast Ethernet port
1,488,000pps for Gigabit Fiber Ethernet port

1Mbites

8K

100 MAC Address Entries/Filter

10 IP authorization

IEEE802.1x/RADIUS

Recovery Time <20ms

■

Port Based VLAN, IEEE802.1Q VLAN
(256 entries)/VLAN ID, GVRP (256 groups)

4 Trunk Groups & Members

3 Types: RX, TX and Both

IGMP Snooping v1/v2, 256 Multicast groups and IGMP query

DHCP Client/Server, Port and IP Binding

DNS Client and Primary/Secondary DNS Server

Determined by Port, Tag and IPv4 Type of Server,
Support IEEE802.1p and Bandwidth Control

RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB,
RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757,
RSTP MIB, Private MIB

SNMP v1, v2c, v3/Web/Telnet/CLI

DC 48V

116 Watts

■

5%~95% (Non-condensing)

-10~60°C

DIN Rail & Wall Mount

72 x 105 x 152

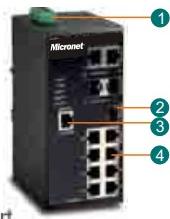
SP6310HPC2, -40~75°C

Managed Switch



		Model No. Description	SP6308I 8-port 10/100M Managed Industrial Switch
Interface	10/100Mbps Port, RJ-45	8	
	10/100/1000Mbps Port, RJ-45	—	
	1000M SFP Slot (Shared)	—	
	100Base-FX Port	—	
	Optical Cable	—	
Hardware	Switching Fabric	1.6Gbps	
	Packet Throughput Ability	2.3Mpps@64bytes	
	Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port	
	Memory Buffer	1Mbits	
	MAC Address	8K	
Security	Port Security	100 MAC Address Entires/Filter	
	IP Security	10 IP authorization	
	Login Security	IEEE802.1x/RADIUS	
	Recovery Time <20ms		
Feature	M-Ring, Dual Homing, Ring Coupling Topology	■	
	IEEE802.1w Rapid Spanning Tree Protocol	■	
	VLAN	Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)	
	Port Trunk with LACP	4 Trunk Groups & Members	
	Port Mirror	3 Types: RX, TX and Both	
	IGMP	IGMP Snooping v1/v2, 256 Multicast groups and IGMP query	
	DHCP	DHCP Client/Server, IP Relay	
	DNS	DNS Client and Primary/Secondary DNS Server	
QoS	Traffic Prioritization among Ports or Services	Determined by Port, Tag and IPv4 Type of Server, Support IEEE802.1p and Bandwidth Control	
Control	SNMP MIB Management	■	
	Terminal Block	SNMP v1, v2c, v3/Web/Telnet/CLI/NS-View	
	Power Consumption	DC 24-48V	
	Power Redundant & Polarity Reverse Protection	8.8 Watts	
Environment	Operating Humidity	■	
	Operating Temperature	5%~95% (Non-condensing)	
	Storage Temperature	-10 - 60°C	
	Installation	-40 - 85°C	
	Dimension, W x D x H (mm)	DIN Rail & Wall Mount	
Others	Option	30 x 95 x 140	
		SP6308H, -40 - 75°C	

Managed Switch



SP6310IC3
7-port 10/100M + 3-port
Gigabit Combo Managed Industrial Switch

7	6
3	-
3	-
-	2
Multi-mode: 50/125μm~ 62.5/125μm, Single-mode: 9/125μm	Multi-mode: 50/125μm~ 62.5/125μm
7.4Gbps	1.6Gbps
11Mpps@64bytes	1.19Mpps@64bytes
14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port	14,880pps for Ethernet port 148,800pps for Fast Ethernet port

1Mbits	1Mbits
8K	2K
100 MAC Address Entries/Filter	-
10 IP authorization	10 IP authorization
IEEE802.1x/RADIUS	-
Recovery Time <20ms	Recovery Time <20ms

Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)

4 Trunk Groups & Members
3 Types: RX, TX and Both
IGMP Snooping v1/v2,
256 Multicast groups and IGMP query

DHCP Client/Server, IP Relay
DNS Client and Primary/Secondary DNS Server

Determined by Port, Tag and IPv4 Type of Server,
Support IEEE802.1p, per port provides
4 priority queues

SNMP v1, v2c, v3/Web/Telnet/CLI
DC 12-48V
10.2 Watts

5%~95% (Non-condensing)
-10 - 60°C
-40 - 85°C
DIN Rail & Wall Mount
72 x 105 x 152

SP6310HC3, -40 - 75°C



SP6308IM2
6-port 10/100M+ 2-port 100 Base-FX
Managed Industrial Switch

7	6
3	-
3	-
-	2
Multi-mode: 50/125μm~ 62.5/125μm	Multi-mode: 50/125μm~ 62.5/125μm
7.4Gbps	1.6Gbps
11Mpps@64bytes	1.19Mpps@64bytes
14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port	14,880pps for Ethernet port 148,800pps for Fast Ethernet port
1Mbits	1Mbits
8K	2K
100 MAC Address Entries/Filter	-
10 IP authorization	10 IP authorization
IEEE802.1x/RADIUS	-
Recovery Time <20ms	Recovery Time <20ms

Port Based VLAN, IEEE802.1Q Tag VLAN, Both of
Port based and Tag based VLAN Group up to 64 VLAN

4 Trunk Groups & Members
3 Types: RX, TX and Both
IGMP v1 and Query mode. Up to 256 groups

DHCP Client
-
Determined by Port, Tag and IPv4 Type of Server,
Support IEEE802.1p, per port provides
4 priority queues

SNMP v1, v2c/Web
DC 12-48V
7.68 Watts

5%~95% (Non-condensing)
-10 - 60°C
-40 - 85°C
DIN Rail & Wall Mount
54 x 105 x 135

SP6308HM2, -40 - 75°C

Media Converter

Media Converter



- ① Terminal Block
② 100Base-FX Port
③ DIP Switch
④ 10/100M RJ-45 Port



- ① Terminal Block
② SFP Slot
③ DIP Switch
④ 10/100/1000M RJ-45 Port

	Model No. Description	SP373HS 10/100TX to 100FX Industrial Media Converter	SP362ID Gigabit to Mini-GBIC Industrial Media Converter
Interface	10/100M Port, RJ-45	1	-
	10/100/1000M Port, RJ-45	-	1
	1000M SFP Slot	-	1
	100Base-FX Port	1	-
	DIP Switch	DIP Switch 1: Power Alarm Enable/Disable DIP Switch 2: LLF Enable/Disable DIP Switch 3: 100FX Full-mode/ Half-mode DIP Switch 4: Switching-mode/ Media-mode	DIP Switch 1: Power Alarm Enable/Disable DIP Switch 2: Fiber LLF & LFP* Enable/ Disable
Hardware	Optical Cable	Single-mode: 9/125µm	Multi-mode: 50/125µm~62.5/125µm, Single-mode:9/125 µm
Power	Terminal Block	DC 12-48V, AC24V	DC 12-48V
	Power Consumption	3.36 Watts	5.28 Watts
	Power Redundant & Polarity Reverse Protection	■	■
Others	Operating Temperature	-40 - 75°C	-10 - 60°C
	Installation	DIN Rail & Wall Mount	DIN Rail & Wall Mount
	Dimension, W x D x H (mm)	30 x 95 x 140	30 x 95 x 140

Technical Notes

M-Ring Fault Tolerance

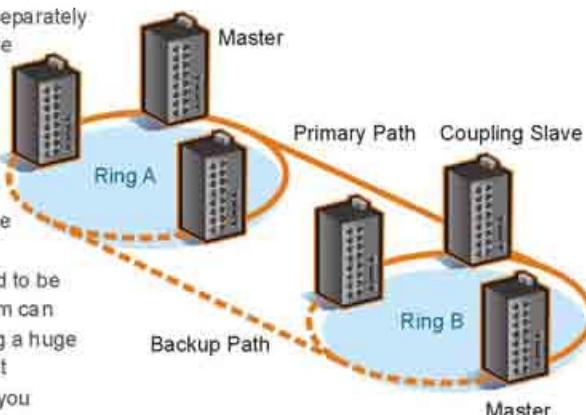
At most of times, Ethernet has its unique data communication purpose for those automation applications from industrial environment. If one link fails, the risk is all other activities from this network will become unpredictable. Thus, the redundant Ethernet path will becomes so important while facing the hazard of link failures. Micronet's industrial switch is equipped with a redundant Ethernet protocol called M-Ring, it gives the whole environment connection a very convenient way to maintain a 24 x 7 workforces without any activity failure. With Micronet's M-Ring solution, your environment will always be kept running and/or can be recovered very fast in just a few milliseconds.



Ring-Coupling

For many of Ethernet environment, all network devices may connect separately from different locations and have its own tasks to be taken up at one site of it, but occasionally these different sites'tasks may need to work shoulder-to-shoulder to take both of sites'data or to exchange the information in between.

The local and remote sites need to be very reliable so that both of them can fulfill each other without building a huge single central hub. The Micronet "Ring Coupling" function helps you maintain those distributed network devices into several smaller redundant rings, without any control line. Still, the smaller rings coupled in such a way will still be able to communicate with each other.



SFP Transceiver

1.25G SFP Transceiver



- ① LC Connector
② Protective Cap

Model No. Description		M368AL SFP Transceiver	M368A SFP Transceiver	M368A-2 SFP Transceiver
STD	IEEE 802.3z, 1000BASE-SX	■	■	■
	IEEE 802.3z, 1000BASE-LX	-	-	-
Performance	Wave Length (nm)	850nm	850nm	1310nm
	Optical Power (dBm)	-19.5 ~ -4	-19.5 ~ -4	-9 ~ -1
	Sensitivity (dBm)	-17	-17	-19
	Link Budget	7.5 dB	7.5 dB	10.0 dB
	Distance	550m	550m	2KM
	Temperature	-20~85°C	-40~85°C	

Model No. Description		M368B-10 SFP Transceiver	M368B-20 SFP Transceiver	M368B-40 SFP Transceiver
STD	IEEE 802.3z, 1000BASE-SX	-	-	-
	IEEE 802.3z, 1000BASE-LX	■	■	■
Performance	Wave Length (nm)	1310nm	1310nm	1310nm
	Optical Power (dBm)	-9.5 ~ -3	-8 ~ -2	-2 ~ +3
	Sensitivity (dBm)	-20	-23	-23
	Link Budget	10.5 dB	15.0 dB	21.0 dB
	Distance	10KM	20KM	40KM
	Temperature	-40~85°C		

Model No. Description		M368B-60 SFP Transceiver	M368B-80 SFP Transceiver	M368B-120 SFP Transceiver
STD	IEEE 802.3z, 1000BASE-SX	-	-	-
	IEEE 802.3z, 1000BASE-LX	■	■	■
Performance	Wave Length (nm)	1550nm	1550nm	1550nm
	Optical Power (dBm)	-2 ~ +3	0 ~ +5	0 ~ +5
	Sensitivity (dBm)	-23	-24	-30
	Link Budget	21.0 dB	24.0 dB	30.0 dB
	Distance	60KM	80KM	120KM
	Temperature	-40~85°C		



Power over Ethernet

Power over Ethernet (PoE) works by providing DC power over the same wires that carry Ethernet data, and makes delivering power over Ethernet cable to remote PoE-enabled devices possible. Further, PoE simplifies the installation and deployment of powered devices. Micronet provides the full range PoE product line, including 4/8/16/24 ports PoE switch series and PoE kit, to fulfill a variety of scenarios and applications, such as IP phones, WLAN and IP surveillance.

While the market rises, Micronet PoE solution keeps offering configuration flexibilities and technology innovation with quality so that our solution can be easily adapted to any requirement. Besides, Micronet helps to configure for diversified application environments, such as for hospitality, data center, SMB/enterprise office communications, etc.

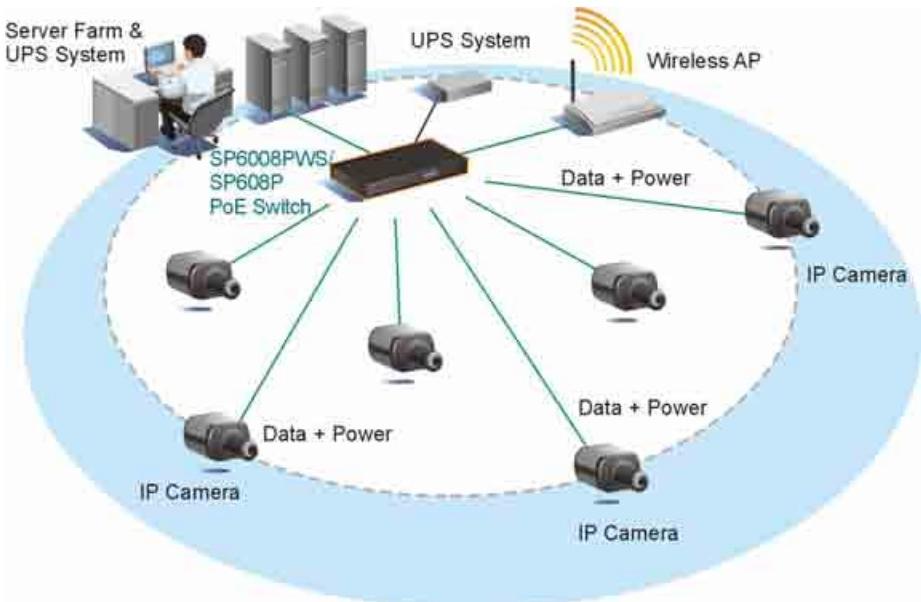
Furthermore, Micronet provides voice, IP Surveillance, and outdoor wireless product lines. These solutions can be integrated with PoE product line seamlessly. Micronet offers cost effectiveness and helps lower the total cost of ownership, customers can get great efficiency without the compatibility issues.



PoE Switch Delivers Power for IP Telephony, Wireless LAN, and IP Surveillance

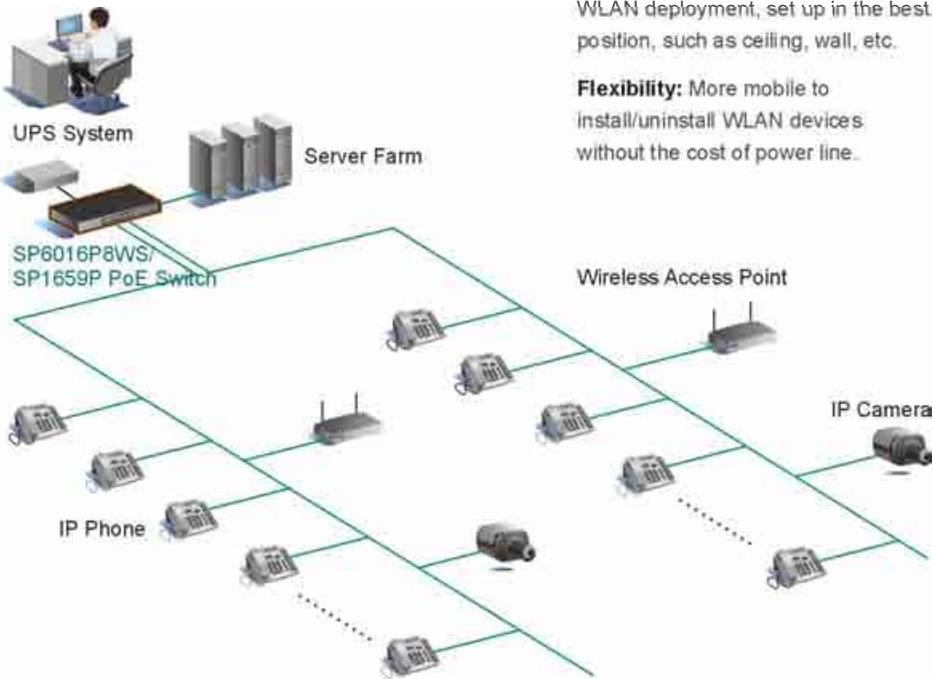
Micronet PoE (Power over Ethernet) switch solution is designed with IEEE 802.3af compliance, and used to deliver power to Ethernet-enabled devices that have the issues of power supplying in the place where there is no AC outlet. Micronet provides a complete solution of high and low port-density, 4/8/16/24 PoE ports, and then the requirement from variety of scenarios, such as IP telephony, wireless LAN, and IP surveillance, can be fulfilled.

SP6008PWS 8-port PoE switch is suitable for the environments that demand for low density of PoE-port implementation, such as video surveillance and wireless hotspots.



A centralized power management system, with redundant power, ensures non-stop track for IP camera. A power failure does not affect community and business security.

SP1659P/SP6016PWS 24/16-port PoE switch is suitable for the office or other environments that demand for high density of PoE-port implementation, including VoIP, Wireless LAN, or IP surveillance. With UPS system deployed, reliable power-supply is ensured.



Optimized Coverage: It facilitates WLAN deployment, set up in the best position, such as ceiling, wall, etc.

Flexibility: More mobile to install/uninstall WLAN devices without the cost of power line.

Secured and Easy Management:

A centralized power management system, with power redundancy, ensures non-stop operation. Via per-port PoE setting in PoE switch, administrator can re-configure the Ethernet devices and control the power on/off remotely when the devices meet problems or need upgrading.

10/100M

PoE Switch



- ① LED Indicator
- ② DIP Switch
- ③ 10/100M RJ-45 Port (#5)
- ④ RJ-45 PoE Port (#1 - #4)



- ① LED Indicator
- ② 10/100M RJ-45 Port/ PoE Port

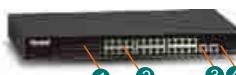
	Model No. Description	SP6005P4 PoE Unmanaged Switch	SP6008PWS PoE Web Smart Switch
Interface	10/100Mbps Port, RJ-45	1	-
	10/100Mbps PoE Port, RJ-45	4	8
	10/100/1000Mbps Port, RJ-45	-	-
	1000Mbps SFP Slot (shared)	-	-
PoE	IEEE 802.3af, Power over Ethernet	-	-
	IEEE 802.3at (draft), Power over Ethernet	-	-
	Power Delivery	Total 61.6W 48/30/20/ 15.4W for 1/2/3/4 PDs	Total 120W 15.4W for 8 PDs
Switching Feature	Auto-Negotiation	-	-
	Auto-Uplink (Auto MDI/MDI-X)	-	-
	Port-based VLAN	-	8 Groups
	IEEE 802.1q, Tag-based VLAN	-	-
	IEEE 802.1q-in-q, Nested (Double Tag) VLAN	-	-
	Port Mirror to Monitor the Traffic of the Source Port	-	-
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-	-
	IEEE 802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	-	-
	IEEE 802.1w, Rapid Spanning-Tree Protocol for Loop-free Redundant Network	-	-
QoS	Traffic Prioritization among Ports or Services	-	-
	Port-based QoS	-	-
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	-	-
	ToS (Type of Service) Classifier (Layer 3)	-	-
	DSCP (DiffServ Code Point) Classifier (Layer 3)	-	-
	TCP/UDP Service Port (Layer 4)	-	-
	Priority Queue	-	2
	Bandwidth Management	-	-
	WRR (Weighted Round Robin) Bandwidth Allocation for Differentiated Services	-	-
	Port-based Bandwidth Control (Ingress/Egress)	-	-
Broadcast Storm Control	-	-	-
Others	IEEE 802.1x, Network Access Control	-	-
	Management	DIP Switch (Per-port PoE On/Off)	HTTP
	Power	DC 48V, 1.25A	AC 100 - 240V
	Dimension, W x D x H (mm)	120 x 90 x 28	266 x 160 x 44
	Optional Module	-	-

PoE Switch

- ① LED Indicator
② 10/100M RJ-45 PoE Port
③ 10/100M RJ-45 Port



- ① LED Indicator
② 10/100M RJ-45 PoE Port
③ 10/100M RJ-45 Port



- ① LED Indicator
② 10/100M RJ-45 Port/
PoE Port
③ 10/100/1000M RJ-45 Port
④ SFP Slot



- ① LED Indicator
② 10/100 RJ-45 Port/
PoE Port
③ SFP Slot
④ 10/100/1000M RJ-45 Port

SP6016P8
PoE Unmanaged Switch

8
8
-
-
■
-

Total 65W 15.4/7.7W for 4/8 PDs

SP6016P8WS
PoE Web Smart Switch

8
8
-
-
■
-

16 Groups
20 Groups

SP6026P16WS
PoE Web Smart Switch

8
16
2
2
■
-

Total 120W
15.4/7.7W for 8/16 PDs

SP1659P
PoE Managed Switch

-
24
2
2
■
-

Total 185W
15.4/7.7W 12/24 PDs

AC 100 - 240V
440 x 220 x 44
-

AC 100 - 240V
440 x 220 x 44
-

AC 100 - 240V
440 x 220 x 44
M363A, M363B-10

HTTP, Telnet, Console,
SNMP, VSM (Virtual
Stack Management)

PoE Kit

PoE Kit



- ① RJ-45 for Data/Power Input
- ② DIP Switch
- ③ RJ-45 for Data Output
- ④ Power Jack for Power Output

	Model No. Description	SP390BS PoE Splitter
Standard	IEEE 802.3, 10BASE-T	■
	IEEE 802.3u, 100BASE-TX	■
	IEEE 802.3af, Power over Ethernet	■
Interface	10/100Mbps RJ-45 Port, Data Input	-
	10/100Mbps RJ-45 Port, Data/Power Output	-
	10/100Mbps RJ-45 Port, Data/Power Input	1
	10/100Mbps RJ-45 Port, Data Output	1
Power over Ethernet	Power Supply	DC 48V
	Injector Output	-
	Maximum Feeding Power	-
	Splitter Output	DC 5V, 2.0A DC 7.5V, 1.33A DC 9V, 1.1A DC 12V, 0.8A (Output Adjustable)
	Protection from Short-circuit	■
Others	Temperature	Operating: 0°C - 40°C Storage: 0°C - 60°C
	Dimension, W x D x H (mm)	80 x 55 x 26

PoE Kit

- ① Power Jack for Power Input
- ② RJ-45 for Data Input
- ③ Power Jack for Power Output
- ④ RJ-45 for Data Output

SP391
Injector/Splitter Kit

■

■

-

1

1

1

1

DC 24V, 1A

DC 24V, 1A

18W

DC 5V, 1.5A
 DC 7.5V, 1.5A
 DC 9V, 1.5A
 DC 12V, 1.5A
 (Output Adjustable)

■

Operating: 0°C - 40°C
 Storage: 0°C - 60°C

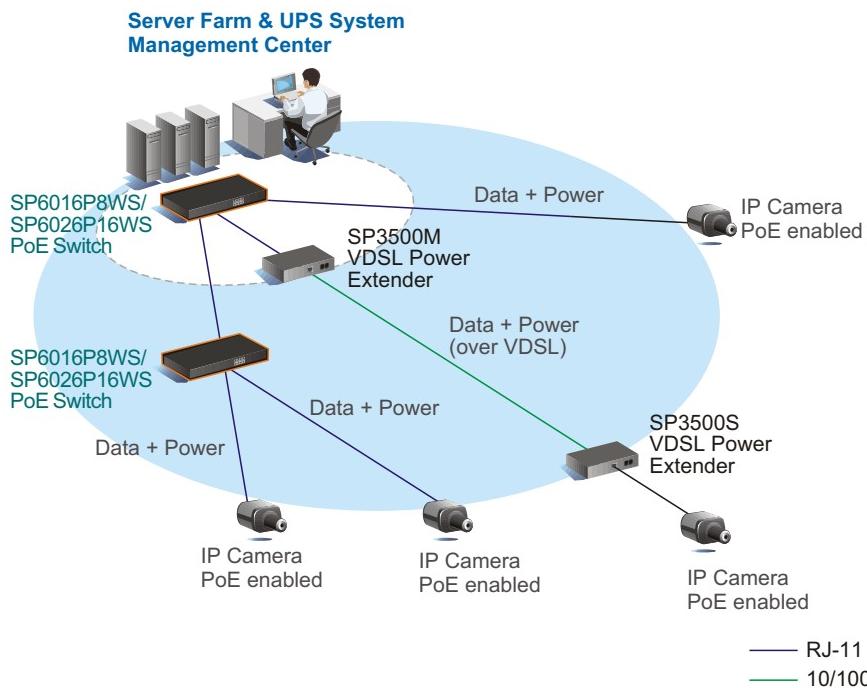
70 x 52 x 26

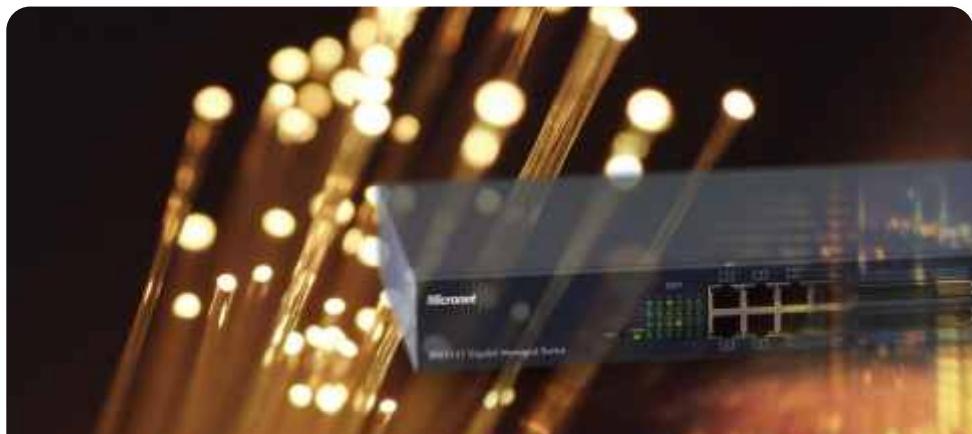
Long-Reach Power Provision is Provided via PoE Switch & VDSL

SP6008PWS PoE switch forwards LAN power via network cable by Power Over Ethernet technology and requires no local power supply to be installed for the purpose. It can also forward Ethernet packets onto connected devices such as Micronet IP camera, wireless AP or IP phone products.

SP6008PWS can extend LAN cable network beyond 100 meters. If the distance is over 100 meters, the customers can use Micronet SP3500 VDSL Power Extender Kit to extend the range up to 1000 meters away, and support symmetrical bandwidth 5/15/25 Mbps to provide sufficient bandwidth.

- 15.4W, within 500 meters
- 12W, within 600 meters
- 8W, within 800 meters
- 5W, within 1000 meters





Fiber Optics

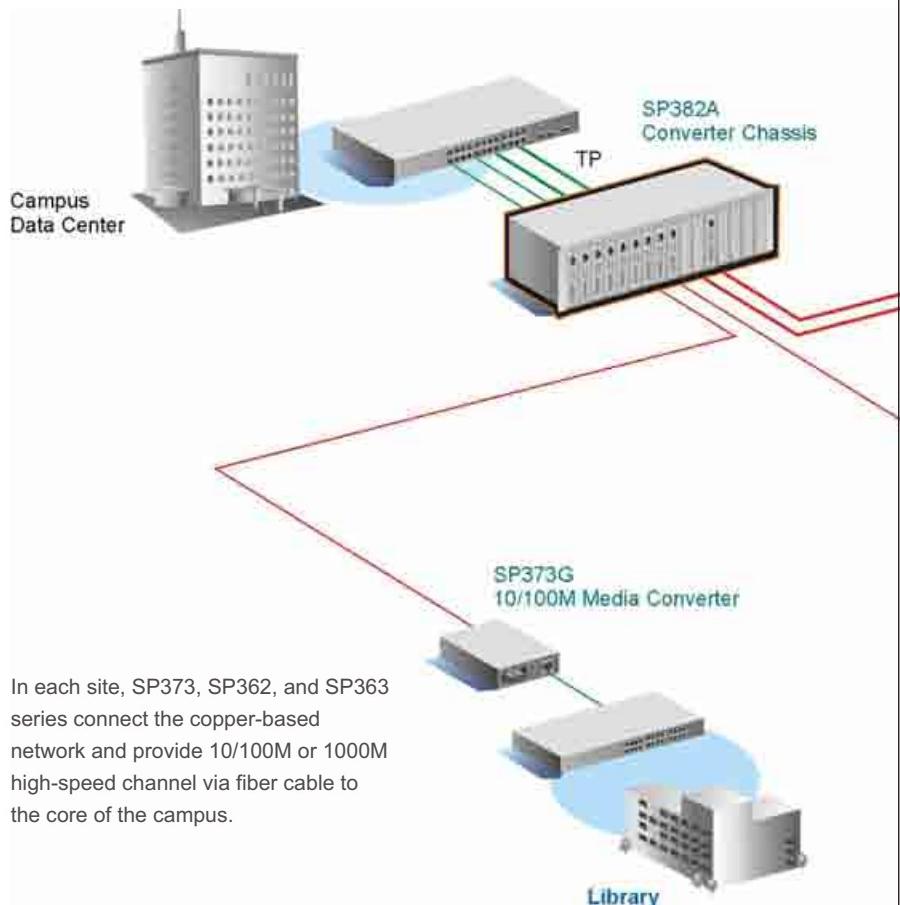
Micronet Fiber-Optics Product Series deliver fiber communications and media conversion from copper to fiber that permits data transmission over long distance at high data rate. Complete solutions with a variety of speed and fiber type provide great flexibility for the network infrastructure.



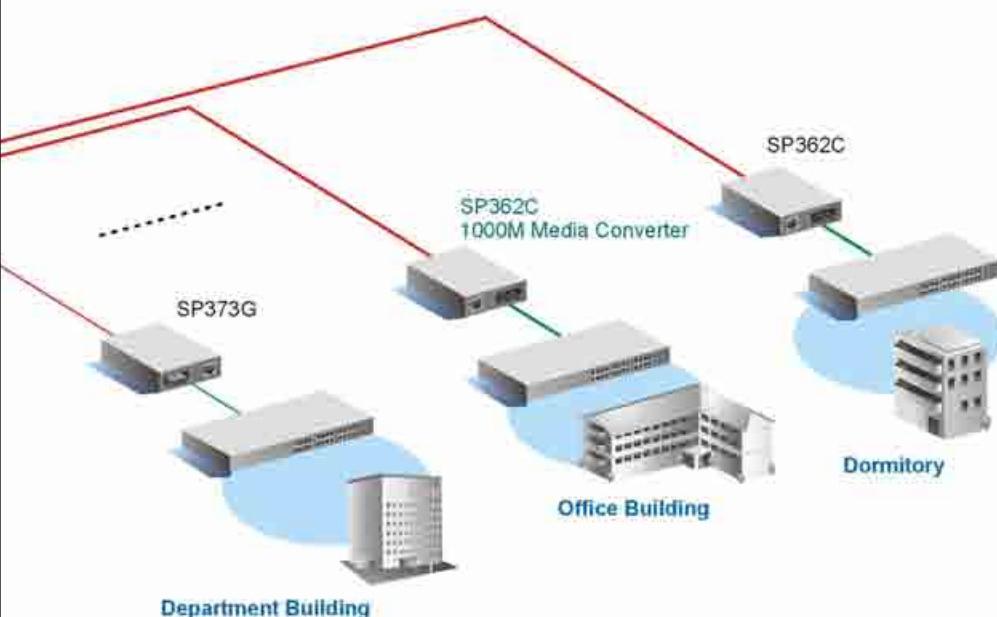
Fiber-Optics Transmission in the Campus

Micronet fiber-optics solution provides media conversion from copper to fiber-optics that permits transmission over long distance at high data rate.

Converter chassis, located in the data center, aggregates the traffic of the campus via fiber-optics, and connects to the core network. With the spread of optical fiber in the campus, administrators can take advantage of the feature of media conversion to extend the copper-based network beyond the distance limitation of 100 meters.



SP382A Converter Chassis
accommodates up to 12 slide-in 10/100M
or 1000M media converters those make
fiber links with remote media converters
in other areas of the campus.



- 1000M Fiber
- 100M Fiber
- 10/100/1000M Copper
- 10/100M Copper

Media Converter

10/100M Media Converter



- ① Fiber Port (ST)
② LED Indicator
③ 10/100M RJ-45 Port

- ① Fiber Port (SC)
② LED Indicator
③ 10/100M RJ-45 Port

Model No. Description		SP373F 10/100Mbps Media Converter	SP373G 10/100Mbps Media Converter
STD	IEEE 802.3, 10BASE-T	■	■
	IEEE 802.3u, 100BASE-TX	■	■
	IEEE 802.3u, 100BASE-FX	■	■
	TP Connection (Copper)	10/100Mbps, RJ-45	10/100Mbps, RJ-45
	FX Connection (Fiber)	100Mbps, Dual ST	100Mbps, Dual SC
	Fiber Cable	50/125 or 62.5/125 µm	50/125 or 62.5/125 µm
Connection	Fiber Mode	Multimode, Duplex	Multimode, Duplex
	Wavelength	1310nm	1310nm
	Max. Distance	2KM	2KM
	Power	DC 5V, 2A	DC 5V, 2A
	Dimension, W x D x H (mm)	94 x 70.3 x 26.5	94 x 70.3 x 26.5

Media Converter

10/100/1000M Media Converter



- ① Fiber Port (SC)
② LED Indicator
③ 1000M RJ-45 Port

- ① Fiber Port (SC)
② LED Indicator
③ 1000M RJ-45 Port

Model No. Description		SP362C 1000Mbps Media Converter	SP363C-10/20 1000Mbps Media Converter
STD	IEEE 802.3, 10BASE-T	-	-
	IEEE 802.3u, 100BASE-TX	-	-
	IEEE 802.3ab, 1000BASE-T	■	■
	IEEE 802.3z, 1000BASE-SX	■	■
	IEEE 802.3z, 1000BASE-LX	■	■
	TP Connection (Copper)	1000Mbps, RJ-45	1000Mbps, RJ-45
Connection	FX Connection (Fiber)	1000Mbps, Dual SC	1000Mbps, Dual SC
	Fiber Cable	50/125 or 62.5/125 µm	9/125 or 10/125 µm
	Fiber Mode	Multimode, Duplex	Single Mode, Duplex
	Wavelength	850nm	1310nm
	Max. Distance	550M	SP363C-10: 10KM SP363C-20: 20KM
Other	Power	DC 5V, 2A	DC 5V, 2A
	Dimension, W x D x H (mm)	94 x 70.3 x 26.5	94 x 70.3 x 26.5
Optional Module		-	-

10/100M Media Converter



- ① Fiber Port (SC)
 - ② LED Indicator
 - ③ 10/100M RJ-45 Port



- ① Fiber Port (SC)
 - ② LED Indicator
 - ③ 10/100M RJ-45 Port



- ① Fiber Port (SC)
 - ② LED Indicator
 - ③ 10/100M RJ-45 Port

SP373G-20/40/60 10/100Mbps Media Converter	SP342C-20 WDM 10/100Mbps Media Converter	SP343C-20 WDM 10/100Mbps Media Converter
■	■	■
■	■	■
■	■	■
10/100Mbps, RJ-45	10/100Mbps, RJ-45	10/100Mbps, RJ-45
100Mbps, Dual SC	100Mbps, Single SC	100Mbps, Single SC
9/125 or 10/125 µm	9/125 or 10/125 µm	9/125 or 10/125 µm
Single Mode, Duplex	Single Mode, Simplex Fiber	Single Mode, Simplex Fiber
1310nm	Tx: 1310nm, Rx: 1550nm	Tx: 1550nm, Rx: 1310nm
SP373G-20: 20KM SP373G-40: 40KM SP373G-60: 60KM	20KM	20KM
DC 5V, 2A	DC 5V, 2A	DC 5V, 2A
94 x 70.3 x 26.5	94 x 70.3 x 26.5	94 x 70.3 x 26.5



- ① SFP Slot
 - ② LED Indicator
 - ③ 1000M RJ-45 Port

SP3600
1000M to SFP Media Converter



10/100/1000Mbps, RJ-45
Slot for SFP Module
Depend on SFP Module
Depend on SFP Module
Depend on SFP Module
Depend on SFP Module

DC 5V, 2A
94 x 70.3 x 26.5
M363A, M363B-10

Note:

M363A : 1000BASE-SX SFP Transceiver, 550M

M363B-10 : 1000BASE-LX SEP Transceiver 10KM

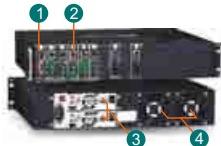
Converter Chassis

Unmanaged



- ① LED Indicator
- ② Slot for Media Converter

Model No. Description		SP382A Converter Chassis
Interface	Slot for Media Converter	12
	Converter Hot Swapping during Power-on State	■
	Management Port, RJ-45	—
Power	Power	AC 100 - 240V
	Power Consumption	60W
	Dual Power Redundancy	■
Others	Load Balance	■
	Management	—
	Dimension, W x D x H (mm)	440 X 258.6 x 89
Option		Standalone Converter
10/100M	10/100BASE-TX to 100BASE-FX, 2km, ST/MM	SP373F
	10/100BASE-TX to 100BASE-FX, 2km, SC/MM	SP373G
	10/100BASE-TX to 100BASE-FX, 20km, SC/SM	SP373G-20
	10/100BASE-TX to 100BASE-FX, 40km, SC/SM	SP373G-40
	10/100BASE-TX to 100BASE-FX, 60km, SC/SM	SP373G-60
	10/100BASE-TX to 100BASE-FX, Bi-Di, 20km, SC/SM	SP342C-20/SP343C-20
Gigabit	1000BASE-T to 1000BASE-SX, 550m, SC/MM	SP362C
	1000BASE-T to 1000BASE-LX, 10km, SC/SM	SP363C-10
	1000BASE-T to 1000BASE-LX, 20km, SC/SM	SP363C-20
	1000BASE-T to 1000BASE-LX, 30km, SC/SM	—
	1000BASE-T to 1000BASE-LX, 50km, SC/SM	—
	1000BASE-T to 1000BASE-SX, 550m, LC/MM	SP3600*
	1000BASE-T to 1000BASE-LX, 10km, LC/SM	SP3600*

Managed

- ① Management Board
② Converter Module
③ Power Supply Module
④ Fan



- ① Management Board
② Converter Module
③ Power Supply Module
④ Fan

Fiber Optics

SP1386
Managed Converter Chassis

16

■

1

AC 100 - 240V

150W

■

■

HTTP, Telnet, Console, SNMP

440 x 350 x 88

SP1387
Managed Converter Chassis

16

■

1

DC -48V

150W

■

■

440 x 350 x 88

Converter Module

M365A

M365B

M365B-20

M365B-40

M365B-60

M365C-20A/M365C-20B

M366B

M366B-10

-

M366B-30

M366B-50

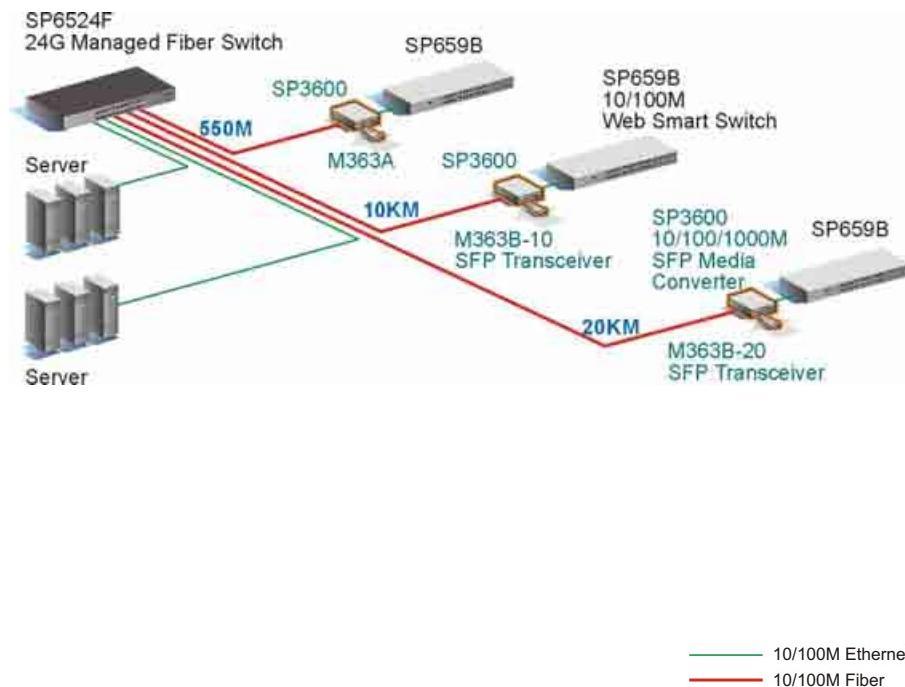
M366C*

M366C-10*

High Flexibility for Fiber-Optics Networking

SP3600 Gigabit media converters extend legacy twisted-pair network via optical fiber cable with no performance degradation, and provide higher bandwidth demand. SP3600 is able to convert networking media between UTP and optical fiber cable, and extend the length of Ethernet connection.

SP3600 supports one SFP (Small Form-factor Pluggable) slot for various types of SFP transceiver. It allows multimode and single-mode for different transmission distance, and provides flexibility for different applications.





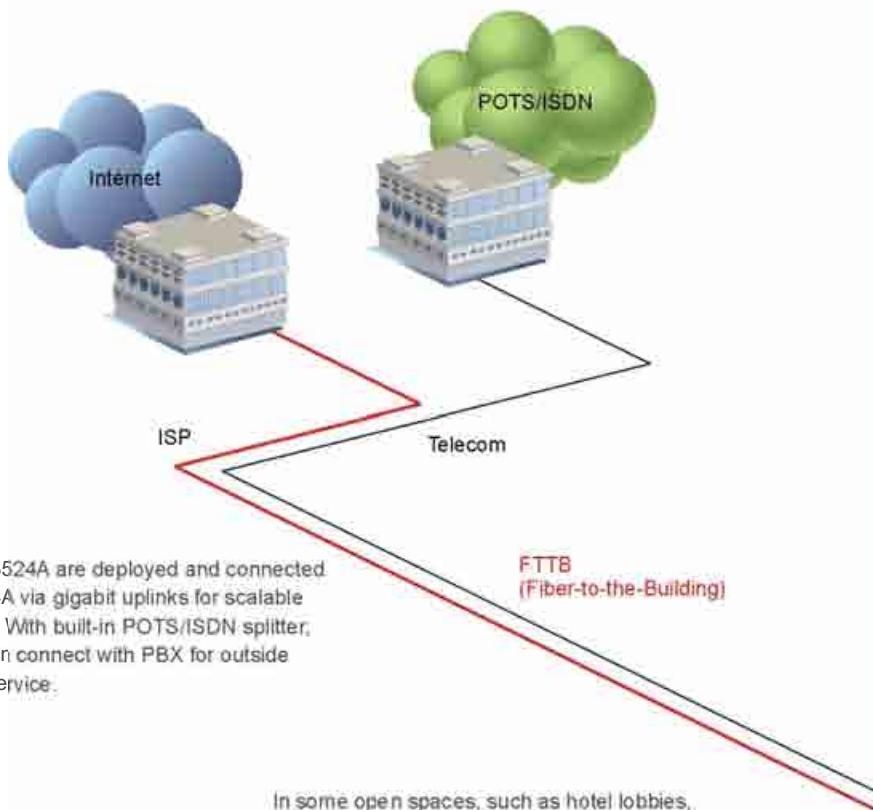
VDSL

Micronet VDSL Product Series deliver cost-effective and high-performance broadband access to MDU/MTU environments. With cutting-edge VDSL/VDSL2 technology, the Micronet VDSL solution dramatically extends Ethernet distance range and supports high bandwidth over the existing telephone wiring infrastructure.

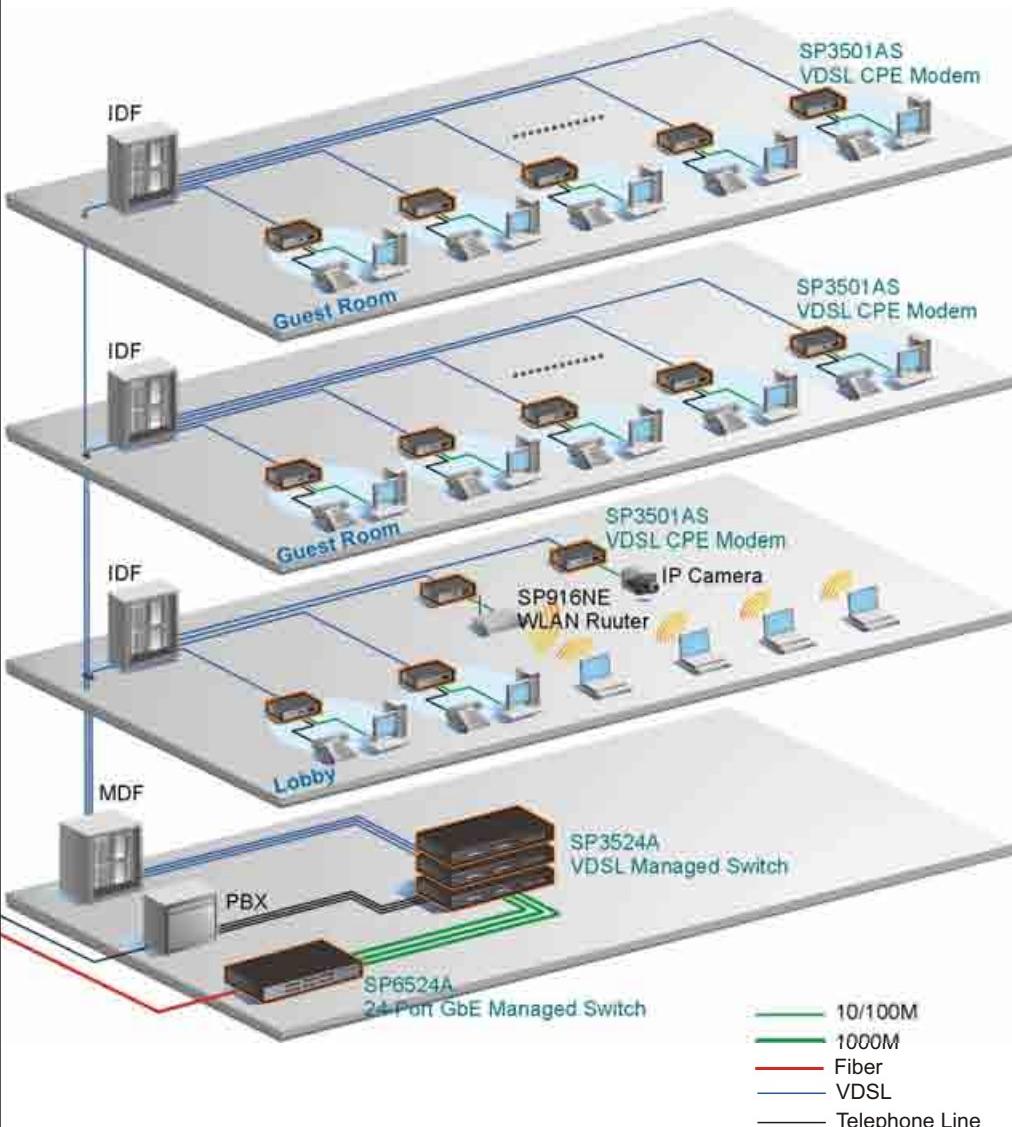


Hotel Internet Service via VDSL & WLAN

High-speed Internet access is implemented for the hotel via fiber. To share the bandwidth to all customers, SP3524A and SP3501AS establish the VDSL connections to extend the last mile of access, and provide symmetrical bandwidth (5/15/25 Mbps) over the existing telephone wiring infrastructure.



In each guest room, SP3501AS is used to connect telephone and PC without re-wiring the legacy telephone wires in the building. Hotel can serve customers with phone and high-speed Internet services with the single VDSL CPE device via its existing telephone lines.



VDSL

Power over VDSL



- ① LED Indicator
- ② 10/100M RJ-45 Port
- ③ VDSL Line Port

	Model No. Description	SP3500M VDSL Power Extender Master	SP3500S VDSL Power Extender Slave
STD	ITU-T G.993.1 (VDSL) IEEE 802.3af (PoE)	■ -	■ ■
	Modulation	QAM, 4-band	
	Main Chip	Infineon 22827	
Hardware	VDSL Line	1	1
	POTS/ISDN Line	-	-
	10/100Mbps Port, RJ-45	1	-
	10/100Mbps PoE Port, RJ-45	-	1
	10/100/1000Mbps Port, RJ-45	-	-
Transmission	Data Rate (Upstream/Downstream)	25/25Mbps, within 0.5KM 15/15Mbps, within 0.8KM 5/5Mbps, within 1.0KM	
	Transmission Distance	Up to 1KM	
PoE	Remote Power Feeding	15.4W, within 0.5KM 12W, within 0.6KM 8W, within 0.8KM 5W, within 1.0KM	
	IEEE 802.1q, Tag-based VLAN	-	
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-	
	IEEE 802.1d, STP	-	
	IGMP Snooping for Multicast Distribution	-	
Switching Feature	Port Mirror to Monitor the Traffic of the Source Port	-	
	Broadcast Storm Control	-	
	IEEE 802.1x, Network Access Control	-	
Others	Device IP Address Assignment Management	DIP Switch Operating: -20°C - 70°C	
	Temperature	Operating: -20°C - 70°C	
	Power Supply	2 x DC 48V, 0.4A	
	Dimension, W x D x H (mm)	146 x 97 x 33	169 x 106 x 33

VDSL

VDSL

		
<p>① LED Indicator ② VDSL Line RJ-11 Port ③ Phone RJ-11 Port ④ 10/100M RJ-45 LAN Port</p>	<p>① VDSL Line RJ-11 Port ② POTS/ISDN RJ-11 Port ③ Console Port ④ 10/100/1000M RJ-45 LAN Port</p>	<p>① VDSL Line RJ-21 Port ② POTS/ISDN RJ-21 Port ③ 10/100/1000M RJ-45 LAN Port ④ Console Port</p>
SP3501AM/AS VDSL CO/CPE Modem	SP3508A VDSL Switch	SP3524A VDSL Switch
ITU-T G.993.1 (VDSL)	ITU-T G.993.1 (VDSL)	
-	-	-
QAM, 4-band Infineon 22827	QAM, 4-band Infineon 22827	
1	8	24
1	8	24
1	-	-
-	-	-
-	2	2
25/25Mbps, within 0.8KM 15/15Mbps, within 1.3KM 5/5Mbps, within 1.9KM	25/25Mbps, within 0.6KM 15/15Mbps, within 1.1KM 5/5Mbps, within 1.7KM	
Up to 1.9KM	Up to 1.7KM	
-	-	-
-	256 Groups	
-	3 Groups	
-	■	
-	■	
-	■	
-	■	
-	■	
DIP Switch Operating: -20°C - 70°C DC 5V, 1A 110 x 95 x 24	Static IP, DHCP Client HTTP, Telnet, Console, SNMP Operating: 0°C - 50°C AC 100 - 240V 435 x 255 x 44	434 x 299 x 66

VDSL2



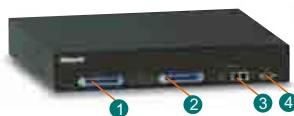
- ① LED Indicator
 - ② 10/100M RJ-45 LAN Port
 - ③ VDSL2 Line RJ-11 Port
 - ④ Phone Line RJ-11 Port

Model No. Description		SP3501BM/BS VDSL2 CO/CPE Router
Standards	ITU-T G.993.1 (VDSL) ITU-T G.993.2 (VDSL2) ITU-T G.994.1 Modulation Main Chip	■ ■ ■ DMT, 2-6 band Infineon VINAX CO/CPE
Hardware	VDSL2 Line POTS/ISDN Line 10/100Mbps Port, RJ-45 10/100/1000Mbps Port, RJ-45 1000Mbps SFP Slot (shared)	1 1 4 — —
VDSL2	Band Profile Support for Differentiated Scenarios	8a, 8b, 8c, 8d, 12a, 12b, 17a, 17b, 30a
	Band Plan	997, 998
	LR-VDSL2 Long-Reach Capability	■
	Data Rate (Upstream/Downstream)	Up to 100/100Mbps
	Transmission Distance	Up to 2.3KM
Switching Feature	VDSL2 Line Speed Configuration	Auto/Fixed Speed
	IEEE 802.1q, Tag-based VLAN	—
	IEEE 802.1q-in-q, Tag-based VLAN	—
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	—
	IEEE 802.1d, STP	—
	IEEE 802.1w, RSTP	—
	IEEE 802.1s, MSTP	—
	IGMP Snooping for Multicast Distribution	—
	Port Mirror to Monitor the Traffic of the Source Port	—
	Broadcast Storm Control	—
	IEEE 802.1x, Network Access Control	—
	L2/L3/4 Access Control List	—
Others	Networking	Static IP, DHCP Client, PPPoE, NAT, Virtual Server, DMZ, Port Mapping, Static Route, Firewall
	Management	HTTP
	Temperature	Operating: 0°C - 50°C ; Storage: -20°C - 65°C
	Power	DC 12V, 1A
	Dimension, W x D x H (mm)	230 x 150 x 38

VDSL2



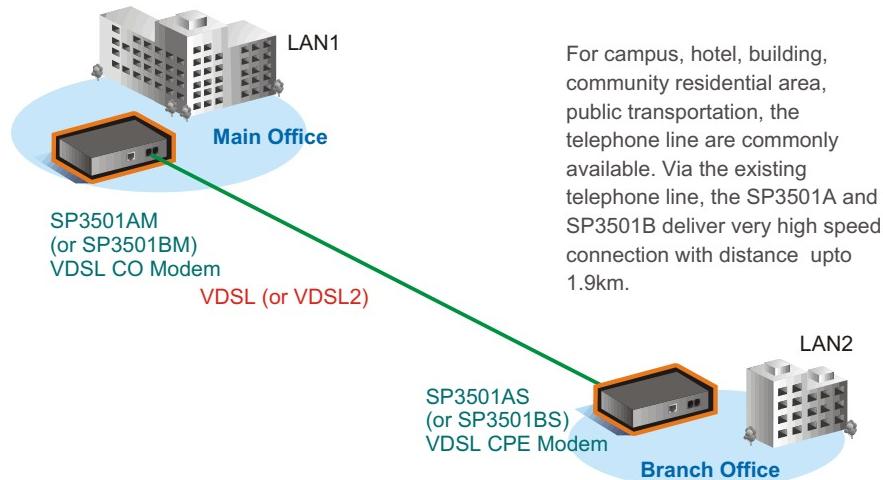
- ① VDSL Line RJ-11 Port
 - ② POTS/ISDN RJ-11 Port
 - ③ Console Port
 - ④ 10/100/1000M RJ-45 LAN Port



- ① VDSL Line RJ-21 Port
 - ② POTS/ISDN RJ-21 Port
 - ③ 10/100/1000M RJ-45 LAN Port
 - ④ Console Port

VDSL/VDSL2 Provides Long-Reach Transmission for Business

Micronet VDSL/VDSL2 (Very High Speed Digital Subscriber Line) is designed to deliver very high-speed broadband access. Over the legacy telephone wiring infrastructure, Micronet VDSL/VDSL2, that features long-reach capability, is able to extend the distance of LAN and to provide the high-speed symmetrical bandwidth without the limitation of 100 meters. The cost-effective solution establishes the inter-connectivity and further provides the high-speed channel for Internet access, video surveillance, and multimedia broadcasting, that are demanded in the MDU/MTU environments, such as campus, hotel, community area, company, public transport, retailing, etc.



VDSL and VDSL2 Bandwidth vs Distance Range		
	Bandwidth (DS/US)	Distance
VDSL	25/25Mbps	Up to 800m
	15/15Mbps	Up to 1.3km
	5/5Mbps	Up to 1.9km
VDSL2	100/100Mbps	Up to 300m
	96/70Mbps	Up to 400m
	80/36Mbps	Up to 500m
	60/28Mbps	Up to 600m

• VDSL/VDSL2 wiring: Cat.3 Twisted Pair, 22, 24, 26AWG



Wireless LAN

Micronet provides a series of wireless products and solutions to Home, SOHO, SMB, Enterprise and WISP. The Wireless LAN Solutions offer the convenience of high-speed networking without the costs and inflexibility of cabling infrastructures. Users are able to enjoy Internet access wirelessly anywhere, anytime.



WISP Backbone and CPE

SP9012N is a cost effective outdoor wireless CPE which is best suitable for both indoor and outdoor use due to its weatherproof enclosure design. SP9012N is equipped with outstanding administration capability which allows users to remotely monitor and control the device and record its status. Customers can use SP9012N to connect to other SP9012N devices from one place to another. At the same time, those SP9012N devices can still work as access points to accept access point clients (e.g., SP907GP) connection. Therefore, the customers can easily make wireless connections from different locations by SP9012N. SP9012N has been able to achieve three times better throughput than competitors' wireless products in field test. If the customer needs to increase the wireless connectivity, SP9012N can collocate with Micronet SP907GP to transmit its digital data across floors with best of sensitivity. In addition, although SP9012N has a built-in 8 dBi internal antenna, to extend the wireless distance coverage, the customer can also use SP9012N with an external antenna (e.g., 12 dBi Omni-directional antenna) to reach a longer distance coverage as well. For cost sensitive solutions, SP9012 can be used to replace SP9012N, since it is the best choice among all outdoor wireless CPEs when constructing a 2.4 GHz outdoor wireless environment.

SP9015 is a 5.8GHz frequency band and weather proof outdoor wireless device with high power outage and excellent radio sensitivity. The customer can use SP9015 to work as an outdoor wireless bridge, access point, gateway or even the access client through its simple and friendly web configuration within seconds. If used with other Micronet outdoor wireless products, for example SP915A, they can be brought together as the solution for the wireless back haul of WISP. If one SP9015 is configured with another SP9015 as a pair, both SP9015 devices can be set into WDS (Wireless Distribution System) mode to become point-to-point link. Thus, the wireless system integrators can build a cost effective outdoor wireless solution with nothing else but a few SP9015 devices.





Fig 1. Multiple CPEs Solution



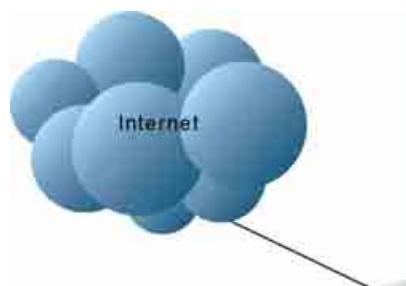
Fig 2. CPE works with WISP Backbone Solution

Networking the Home PCs with 300 Mbps 11n Wireless LAN

SP916NE 11n wireless broadband router makes users to share high-speed Internet access and connect all the computers and wireless devices together. SP916NE supports up to 300Mbps transmission rate which is 3 to 6 times faster than 11g wireless router.

Through the new MIMO (Multi-in, Multi-out) technology, SP916NE can minimize the dead wireless corners and provide better transmission performance. The SP916NE also Supports QoS (Quality of Service) that separates data streams based on sensitivity to delay, enabling your VoIP (Voice over IP), video, and gaming applications.

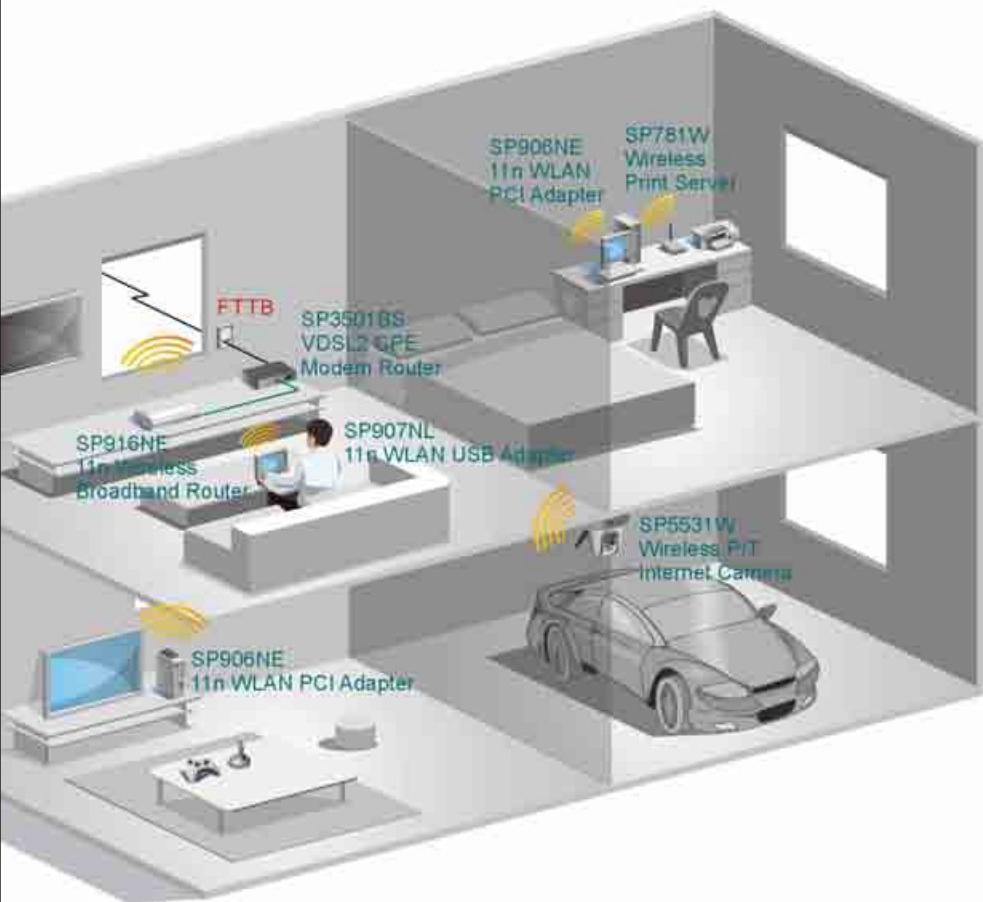
For the office environments, SP916NE will greatly enhance the effective throughput.



SP916NE 11n wireless broadband router creates a wireless network to share high-speed Internet access among computers, game consoles, and media players with wider coverage around your home. SP906NE 11n wireless PCI adapter and the SP907NL 11n wireless USB adapter enable your PC with a faster wireless connection and superior reception, excellent for video, gaming.



SP916NE 11n wireless broadband router supports Wi-Fi Protected Setup (WPS) which is the most simple way to build connection between wireless network devices and the wireless router. You don't have to select encryption mode and input a long encryption pass phrase every time during setting up a wireless client. This wireless router supports two types of WPS: Push-Button Configuration (PBC) and PIN Code. The WPS function makes the operation easier.



WLAN Adapter

WLAN PCI Adapter



- ① Detachable Antenna
- ② R/SMA Connector
- ③ LED Indicator
- ④ PCI Bus



- ① Detachable Antenna
- ② LED Indicator
- ③ R/SMA Connector
- ④ PCI Bus

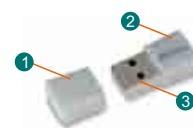
	Model No. Description	SP906GK WLAN PCI Adapter	SP906NE WLAN PCI Adapter
Hardware	IEEE 802.11b/g Compliant	■	■
	IEEE 802.11n Compliant	-	■
	Frequency Band	2.4 GHz	
	Wireless Data Rate (Max.)	54M	300M
	Wireless Output Power (Max.)	16 dBm	18dBm
	External Antenna	1 x 2dbi	2 x 2dbi
	Antenna Connector Type	R/SMA	R/SMA
	Operation Channel	FCC (US), ETSI (Europe)	
Feature	Traffic Prioritization among Services (QoS)	-	■
	WPS (WiFi Protected Setup) for Easy Connection between AP & Client via Push Button or PIN Code	-	■
Security	IEEE 802.1x, Network Access Control	■	■
	WEP (Wired Equivalent Privacy)	■	■
	WPA (Wi-Fi Protected Access)	■	■
Operation	WPA2	■	■
	Ad-Hoc	■	■
Software	Infrastructure	■	■
	Driver Support	Windows 98SE/ME/2000/XP/Vista/7	
	Utility	■	■

WLAN USB Adapter

- ① R/SMA Antenna
② LED Indicator
③ Mini USB Connector



- ① USB Interface
② LED Indicator
③ WPS Button



- ① Connector Cab
② LED Indicator
③ USB Interface

Wireless LAN

SP907GP
WLAN USB Adapter

SP907NL
WLAN USB Adapter

SP907NS
WLAN USB Adapter

■

■

■

-

■

■

2.4 GHz

54M

150M

150M

27 dBm

18 dBm

18 dBm

1 x 5dbi

Built-in

Built-in

R/SMA

-

-

FCC (US), ETSI (Europe)

■

■

-

-

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■

■

■

Windows 98SE/ME/2000/XP/Vista/7

■

■

■

WLAN AP/Router

WLAN Broadband Router



- ① Detachable R/SMA Antenna
- ② LED Indicator
- ③ 10/100M RJ-45 LAN Port
- ④ WPS Button

	Model No. Description	SP916NE 11n Wireless Broadband Router
Interface	10/100Mbps LAN Port, RJ-45 10/100Mbps WAN Port, RJ-45	4 1
Hardware	IEEE 802.11b/g Compliant IEEE 802.11n Compliant	■ ■
	Frequency Band	2.4 GHz
	Wireless Data Rate (Max.)	300M
	Wireless Output Power (Max.)	18 dBm
	Antenna Connector Type	R/SMA x 2
	Operation Channel	FCC(US), ETSI(Europe)
Feature	NAT (Network Address Translation) DMZ (Demilitarized Zone) for Non-Interference Traffic	■ ■
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	■
	Built-in Firewall	■
	UPnP (Universal Plug & Play)	■
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
Security	IEEE 802.1x, Network Access Control ACL (Access Control List)	■ ■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
	WPA2	■
Operation	Access Point Bridge	■ ■
	Station Adapter	■
	WDS (Wireless Distribution System)	■
Management	Web-based Management	■
Others	Firmware Upgrade Power	■ DC 5V, 1A
	Dimension, W x D x H (mm)	147 x 95 x 32

WLAN Outdoor CPE/AP



- ① 10/100M RJ-45 LAN Port
- ② 10/100M RJ-45 WAN Port
- ③ Reset Button
- ④ LED Indicator

	Model No. Description	SP9012 WLAN Outdoor CPE
Interface	10/100Mbps LAN Port, RJ-45 10/100Mbps WAN Port, RJ-45	1 1
	IEEE 802.11 Compliant	IEEE802.11b/g
Hardware	Frequency Band Wireless Data Rate (Max.) Wireless Output Power (Max.) Antenna Connector Type Operation Channel	2.4 GHz 54M 26 dBm Embedded 14dBi Antenna FCC(US), ETSI(Europe)
	Power over Ethernet NAT (Network Address Translation) DMZ (Demilitarized Zone) for Non-Interference Traffic	■ ■ ■
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	—
Feature	Built-in Firewall UPnP (Universal Plug & Play)	■ ■
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	Bandwidth Control for Both Inbound & Outbound Traffic	■
	AP Association / Traffic Limit for Preventing from Overloading	—
	Operating Mode	Bridge, Gateway, WISP
Security	IEEE 802.1x, Network Access Control ACL (Access Control List) WEP (Wired Equivalent Privacy) WPA (Wi-Fi Protected Access)	■ ■ ■ ■
	WPA2	■
Management	Telnet Management Web-based Management SNMP Network Monitoring Firmware Upgrade Watchdog Timer	— ■ — ■ ■
Others	Power Dimension, W x D x H (mm)	DC 12V, 1.25A (PoE) 230 x 210 x 100

WLAN Outdoor AP/Bridge



① Antenna Connector
② PoE LAN Port

	Model No. Description	SP915NLOS-7 NLOS Access Point
Interface	10/100Mbps LAN Port, RJ-45	1
	10/100Mbps WAN Port, RJ-45	-
	IEEE 802.11 Compliant	IEEE802.11b/g
	Frequency Band	763~778MHz/703~718MHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	28 dBm
	Antenna Connector Type	N-Type
	Operation Channel	FCC(US), ETSI(Europe)
	Power over Ethernet	-
	Packet Filtering	-
Hardware	DHCP Client/Server	-
	WMM	-
	Multiple SSID	-
	UPnP (Universal Plug & Play)	-
	Wireless Client Isolation	-
	AP Load Balancing	-
	AP Association/Traffic Limit for Preventing from Overloading	Number of Users/Traffic Load
	Operating Mode	Bridge, WDS, AP
Security	IEEE 802.1x, Network Access Control	-
	ACL (Access Control List)	-
	WEP (Wired Equivalent Privacy)	-
	WPA (Wi-Fi Protected Access)	-
	WPA2	-
	VPN Passthrough	-
Management	Web-based Management	-
	SNMP Network Monitoring	-
	Firmware Upgrade	-
	Watchdog Timer	-
Others	Power	DC 48V, 1A (PoE)
	Dimension, W x D x H (mm)	234 x 170 x 63

WLAN Outdoor AP/Bridge



① Antenna Connector
② PoE LAN Port



① Antenna Connector
② PoE LAN Port

SP915NLOS-9 NLOS Access Point

1

IEEE802.11b/g

907~922MHz

54M

28dBm

N-Type

FCC(US), ETSI(Europe)



Number of Users/Traffic Load

Bridge, WDS, AP



SP915P WLAN Outdoor Bridge

1

IEEE802.11a/b/g

2.4GHz, 5.8GHz

54M

28dBm

N-Type



Repeater, CPE, WDS, AP



DC 48V, 1A (PoE)

DC 48V, 400 mA (PoE)

234 x 170 x 63

410 x 290 x 125

WLAN Outdoor AP/Bridge



① Antenna Connector

② PoE LAN Port

	Model No. Description	SP915A WLAN Outdoor AP/Bridge
Inter-face	10/100Mbps LAN Port, RJ-45	1
	10/100Mbps WAN Port, RJ-45	-
Hardware	IEEE 802.11 Compliant	IEEE802.11a/b/g
	Frequency Band	2.4 & 5.8 GHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	27 dBm
	Antenna Connector Type	N-Type
	Operation Channel	FCC(US), ETSI(Europe)
	Power over Ethernet	■
Feature	Packet Filtering	■
	DHCP Client/Server	■
	WMM	-
	Multiple SSID	-
	UPnP (Universal Plug & Play)	■
	Wireless Client Isolation	■
	AP Load Balancing	■
	AP Association/Traffic Limit for Preventing from Overloading	Number of Users/Traffic Load
	Operating Mode	Bridge, WDS, AP
Security	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
	WPA2	■
	VPN Passthrough	■
Management	Web-based Management	■
	SNMP Network Monitoring	■
	Firmware Upgrade	■
	Watchdog Timer	■
Others	Power	DC 48V, 1A (PoE)
	Dimension, W x D x H (mm)	234 x 170 x 63

WLAN Outdoor AP/Bridge

- ① Antenna Connector
② PoE LAN Port

- ① Antenna Connector
② PoE LAN Port

- ① PoE LAN Port

Wireless LAN

SP915M WLAN Outdoor Mesh AP	SP915R WLAN Outdoor Repeater	SP915T WLAN Outdoor TDMA AP/Bridge
1	1	1
-	-	-
IEEE802.11a/b/g	IEEE802.11a/b/g	IEEE802.11a/b/g
2.4 & 5.8 GHz	2.4 & 5.8 GHz	2.4 & 5.8 GHz
54M	54M	54M
25 dBm	27 dBm	26 dBm
N-Type	N-Type	N-Type
FCC(US), ETSI(Europe)		
■	■	■
■	■	■
■	■	■
■	■	-
■	-	■
■	■	-
-	■	■
■	-	■
Number of Users/Traffic Load		
Mesh Backhaul, WDS, AP		Repeater, CPE, WDS, AP
■	■	■
■	■	■
■	■	■
■	■	■
■	■	■
■	-	-
■	■	■
■	■	■
-	■	■
DC 48V, 1A(PoE)	DC 48V, 1A(PoE)	DC 48V, 400mA(PoE)
234 x 170 x 63	234 x 170 x 63	410 x 290 x 125

WLAN Antenna

2.4GHz WLAN Antenna



① Omni-directional Antenna
② R/SMA Connector

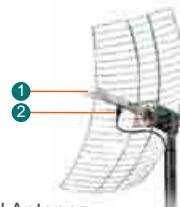


① Omni-directional Antenna
② N-Jack Connector

Model No. Description	SP920K-7 Omni-directional Antenna	SP920MA-8 Omni-directional Antenna
Hardware	Frequency Band	2.4 - 2.5 GHz
	Antenna Gain (dBi)	8
	Power Handling (Watts)	100
	VSWR (Voltage Standing Wave Ratio)	1.5:1
	Impedance	50 Ω
	Antenna Connector Type	R/SMA Plug
	Polarity	Vertical
	E-Plane	30°
	H-Plane	360°
	Mounting Type	Mast

WLAN Antenna

2.4GHz WLAN Antenna



① Grid Antenna
② N-Jack Connector



① Panel Antenna
② R/SMA Connector

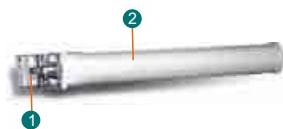
Model No. Description	SP920PA2-24 Grid Antenna	SP920LA-7 Panel Antenna
Hardware	Frequency Band	2.4 - 2.5 GHz
	Antenna Gain (dBi)	7
	Power Handling (Watts)	10
	VSWR (Voltage Standing Wave Ratio)	1.5:1
	Impedance	50 Ω
	Antenna Connector Type	SMA Plug
	Polarity	Horizontal/Vertical
	E-Plane	80°
	H-Plane	30°
	Mounting Type	Swivel/Mast

5.8GHz WLAN Antenna

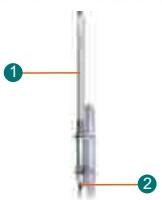
Wireless LAN



① Omni-directional Antenna
② N-Jack Connector



① N-Jack Connector
② Yagi Antenna



① Omni-directional Antenna
② N-Jack Connector

SP920MA-12
Omni-directional Antenna

SP920FB
Yagi Antenna

SP920MA-10E
Omni-directional Antenna

2.4 - 2.5 GHz

12

15

5.5 - 5.875 GHz

20

50

10

20

1.5:1

50 Ω

N Jack

Vertical

N Jack

Horizontal/Vertical

N Jack

14 °

25 °

14 °

360 °

25 °

360 °

Mast

Swivel/Mast

5.8GHz WLAN Antenna

① Panel Antenna
② N-Jack Connector



① Panel Antenna
② N-Jack Connector



① Panel Antenna
② N-Jack Connector

SP920LA-12
Panel Antenna

SP920LA-12E
Panel Antenna

SP920LA-18E
Panel Antenna

2.4 - 2.5 GHz

5.15 - 5.875 GHz

12

12

18

10

10

10

1.5:1

50 Ω

N Jack

N Jack

N Jack

Horizontal/Vertical

30 °

29 °

18 °

60 °

50 °

18 °

Swivel

WLAN Antenna Accessories

WLAN RF Cable



① R/SMA-Plug
② N-Plug



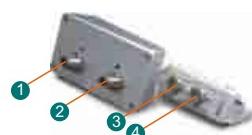
① N-Jack
② N-Plug

	C920B-1/C920B-3 Wireless Antenna Cable	C920C-5/C920C-10 Wireless Antenna Cable	
Hardware	Frequency Band Length Cable Type Connector Type Gain Loss VSWR (Voltage Standing Wave Ratio)* Impedance Nominal DC Spark-over Voltage Surge Breakdown	2.4 or 5.8GHz C920B-1: 1m, C920B-3: 3m RG58/U N Plug -to- R/SMA Plug C920B-1: 0.6dB, C920B-3: 0.6dB 1.5:1 50 Ω -	2.4 or 5.8GHz C920C-5: 5m, C920C-10: 10m RG8/U, JIS8D N Plug-to-N Jack C920C-5: 2dB, C920C-10: 3.1dB 1.5:1 50 Ω -

Note: It is a ratio of the maximum and minimum amplitude (voltage or current) of the corresponding field components appearing on a line that feeds an antenna.

WLAN Antenna Accessories

WLAN Booster



① Connector to Antenna
② Connector to DC Injector
③ N-Type Connector to Amplifier
④ N-Type connector to Access Point



① Power Jack
② SMA Male Connector to Access Point
③ SMA Female Connector to Antenna
④ LED Indicator

	SP922-1000 WLAN Auto Gain Booster, Outdoor	SP923G-500 WLAN Signal Booster, Indoor	
Hardware	Frequency Band Connector Type Transmission Gain Receiver Gain Impedance Frequency Response Noise Figure* Wireless Output Power (Max.) Power	2.4 GHz N Jack 30dB 15dB 50 Ω +/- 1dB 3.5dB 1000mW DC 6V, 2A	SMA Female 27dB 10dB 50 Ω +/- 1dB 3.5dB 500mW

Note: Noise Figure is a measure of degradation of the signal to noise ratio (SNR) caused by components in the RF signal chain.

Lighting Arrester

- ① N-Plug
② SMA-Plug



- ① TNC
② N-Plug



- ① N-Jack
② N-Plug

C920D-5/C920D-10
Wireless Antenna Cable

2.4 or 5.8GHz
C920D-5: 5m, C920D-10: 10m
RG8/U, JIS8D
SMA Plug-to-N Jack
C920D-5: 2dB, C920D-10: 3.1dB
1.5:1
50 Ω
-
-

C920G
Wireless Antenna Cable

2.4 or 5.8GHz
0.3m
C200 Coax Cable
TNC-to-N Type
1dB
1.5:1
50 Ω
-
-

C925
Lightning Arrester

50MHz to 3GHz
-
-
N Plug-to-N Jack
1dB
1.5:1
50 Ω
90V
2500V x 10A (10/1000μs)

WLAN Converter

- ① Connector to Antenna
② Connector to DC Injector
③ Connector to Access Point
④ Connector to Converter

SP922-200E
WLAN Converter

2.4GHz and 5.8GHz
N Jack
23dB
20dB
50 Ω
+/- 1dB
3.5dB
200mW
DC 12V, 1.5A

WLAN Projector Server

Projector Server



- ① VGA Connector
- ② Audio Connector
- ③ 10/100M RJ-45 LAN Port
- ④ Reset Button

	Model No. Description	SP926 Wireless Video Projector Server
Interface	10/100Mbps LAN Port, RJ-45	1
	Audio Port	1
	VGA Port	1
	USB Port	-
	HDMI (High-Definition Multimedia Interface) Port	-
	IEEE 802.11b/g Compliant	■
Hardware	IEEE 802.11n Compliant	-
	Frequency Band	2.4 GHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	16 dBm
	Antenna Connector Type	R/SMA
	Operation Channel	FCC (US), ETSI (Europe)
Feature	Operating Mode	Real-time Projection, Video Encode/Decode
	Video Format	MPEG1/2/4, DAT, VOB, WMV9, ASF, AVI
	Conference Control to Allow Hosting of Moderate Meetings	■
	Login Code to Prevent Unauthorized Projection	Random/Fixed
	Handheld Remote Controller	-
	Wireless AP Mode for Users to Access LAN & Internet	■
Resolution	WPS (Wi-Fi Protected System) for Easy Connection between AP & Client via Push Button or PIN Code	-
	Utility Download from Device	■
	USB Dongle Creation Utility*	■
	VGA Video Output	1024 x 768 with 32-bit Color Depth
	HDMI Video Output	-
	WEP (Wired Equivalent Privacy) Encryption for Security	■
Security	WPA (Wi-Fi Protected Access) Encryption for Security	-
	IEEE 802.1x, Network Access Control	-
Others	Management	HTTP, Utility
	Power	DC 5V, 2.5A
	Dimension, W x D x H (mm)	138 x 100 x 33

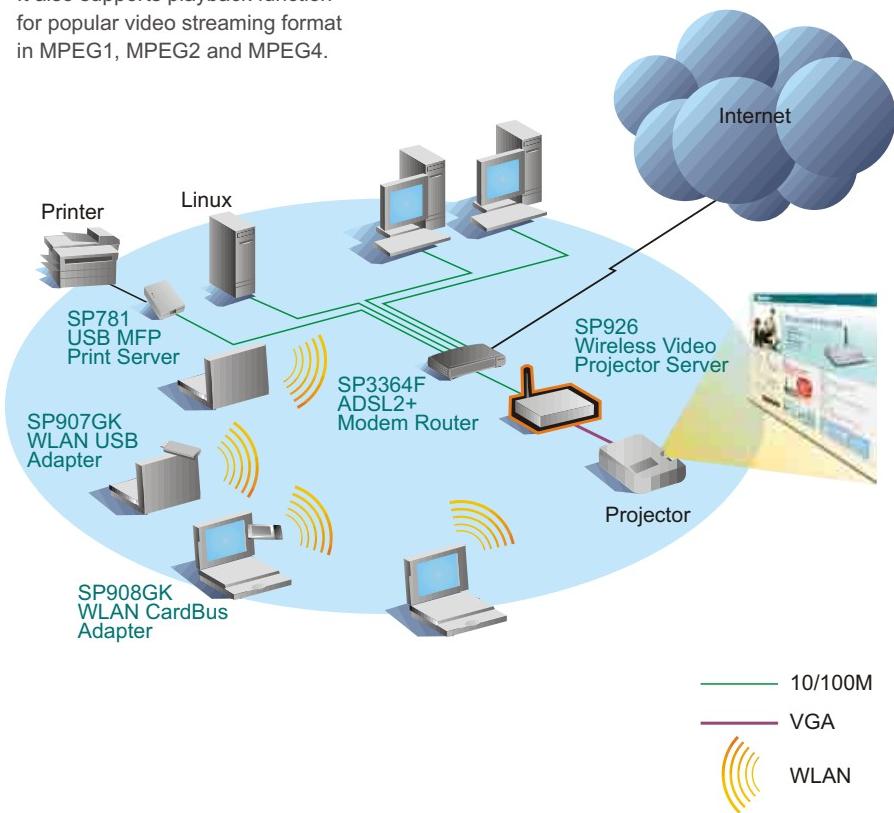
Note : Users can use the USB Dongle (Flash) for installation-free operation.

Wireless Projector Server

Micronet Wireless Projector Server eliminates the necessity for wired-connection and allows users to transmit data wirelessly from notebook to projector. Meanwhile, the device can play as an AP for users to access Internet. It is a cost-effective solution for SMB to create a basic wireless infrastructure.

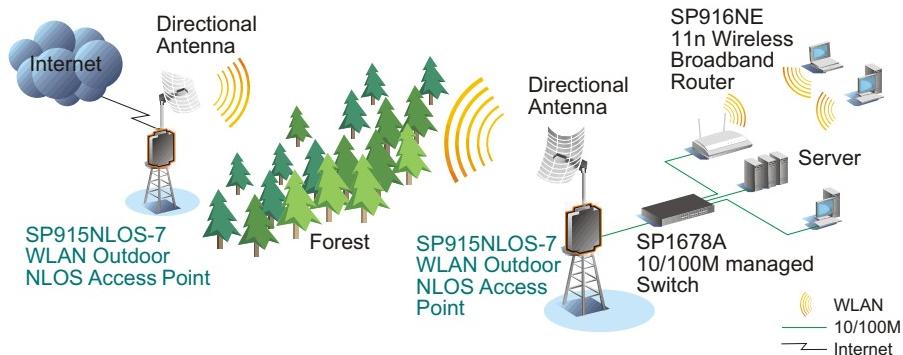
SP926 supports video streaming, and real time high quality video display via wireless transmission. Besides, SP926 provides an audio port to enhance the entertainment experience by connecting it to an external speaker. Conference control is viable through the Web UI interface to make the presentation more interactive. With dynamic login code, it prevents the system from malicious damage by non-authenticated user.

SP926 is able to deliver real time animation screens for XGA and WXGA resolutions in 32-bit color. It also supports playback function for popular video streaming format in MPEG1, MPEG2 and MPEG4.



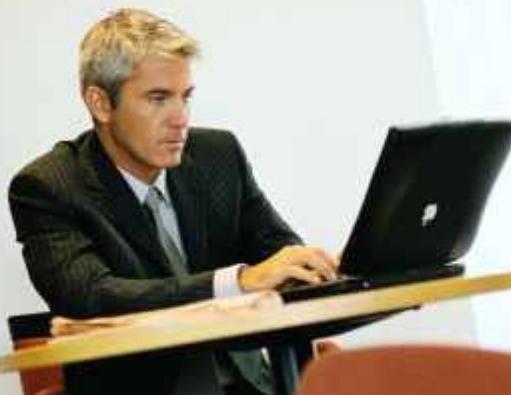
Designing an Affordable, Easily Deployed, and Transparent Environment with Micronet Non-Line-Of-Sight (NLOS) Wireless Products

Of the multiple outdoor wireless solutions, Micronet SP915NLOS-7 and SP915NLOS-9 wireless products can apply for the deployment in Non-Line-Of-Sight (NLOS) arena, where the landscape of the areas could be with hilly terrain, or the areas may be much like suburban communities that are surrounding with many of trees or foliations nearby, or the areas are very close to the forest or in the mountain areas or maybe just in the center of forest, as the purpose for a fire-alarm observatory. In some wireless communication area, there could be some obstructions, buildings or blocks which may obscure Line-Of-Sight (LOS) between the wireless access points and the backhaul infrastructure (e.g., of Wireless Internet Service Provider or so-called WISP). The SP915NLOS-7 and SP915NLOS-9 operate on frequency band 700MHz and 900MHz, respectively.



Most of people may have one question - What are the major differences between the normal outdoor products and NLOS outdoor products? To explain of this, most of the outdoor wireless products can only works under the environment of Visual-Line-Of-Sight (VLOS) or Radio-Line-Of-Sight (RLOS). VLOS environment is as if you stand at the certain position far away from the object's location, you are able to see the remote object. While for the RLOS environment, it is as the wireless distance in-between by the definition of a football-shaped pattern known as the Fresnel Zone. If you are unable to maintain RLOS wireless environment, then you must realign or increase the mast height of both transmission products' antennas until you can achieve a quality Radio Frequency (RF) signal.

In contrast, Non-Line-Of-Sight (NLOS) wireless environment can avoid most of obstacles such as trees, building, hills, mountains, walls or any other blocked objects between transmitting antenna and the receiving antenna. The signals arriving at the receiver may consist of components from the direct path, multiple reflected paths, scattered energy, and diffracted propagation paths. These signals have different delay spreads, attenuation, polarizations, and stability relative to the direct path. Therefore, NLOS wireless products like Micronet SP915NLOS-7 and SP915NLOS-9 can have more contribution with its strong-sensitivity, widely-deployment and greatly-transparent capabilities that are suitable for most of complicated outdoor wireless infrastructure and environment to be used.



Hotspot & Network Access Controller

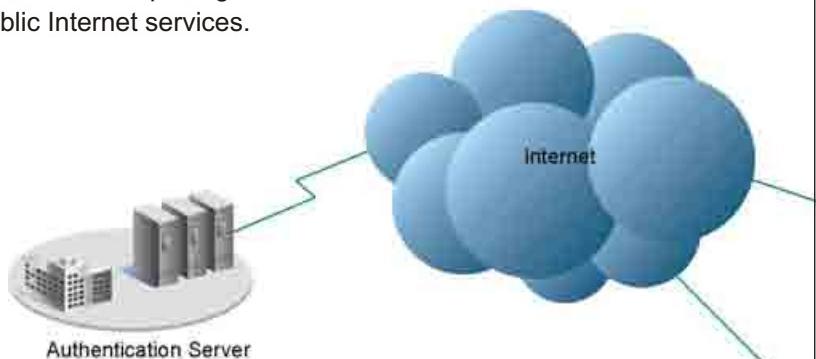
Micronet provides a series of hotspot and network access controller products. These products help you generate extra revenue via internet access services. Beside, they enhance your network security and reduce maintenance cost.



Hotspot Internet Access

Hotspot solutions not only help users to access the Internet at public places but also bring extra revenue for service providers. SP913 wireless hotspot gateway is able to be deployed in a single site, such as cafe and restaurant (Fig.1). Moreover, it can also be adopted in larger scale environments of multiple sites, like libraries and chain stores, via remote Radius server (Fig.2).

SP913 hotspot gateway is able to support up to 100 concurrent users and 2000 user accounts. With various authentication methods and firewall policies, administrators can easily manage and enhance system security. With built-in billing mechanism and receipt-printing features, SP913 helps to generate revenue stream from public Internet services.



Besides local database, SP913 provides the following external authentication servers, like POP3, RADIUS, LDAP and NT Domain. By enabling the "Radius Roaming Out" function of SP913, the administrator can configure the system to help users login from each shop front of the chain with a centralized Authentication Server.

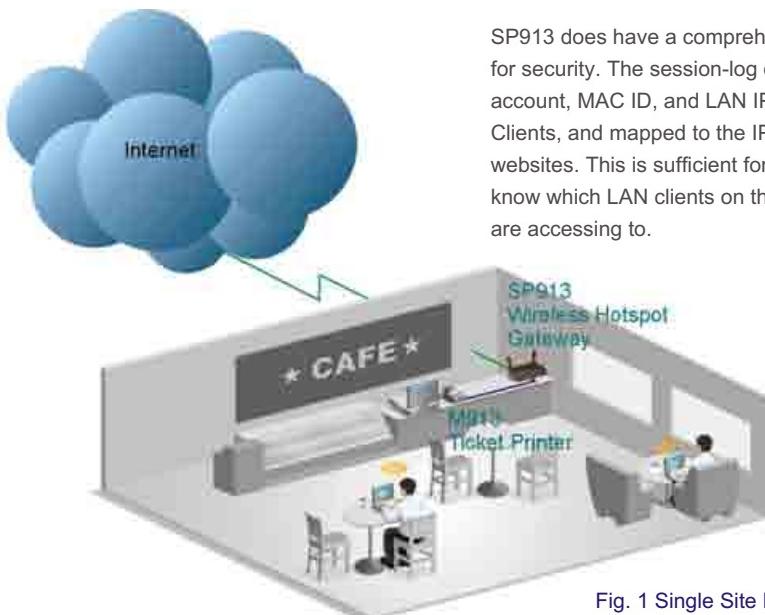


Fig. 1 Single Site Deployment

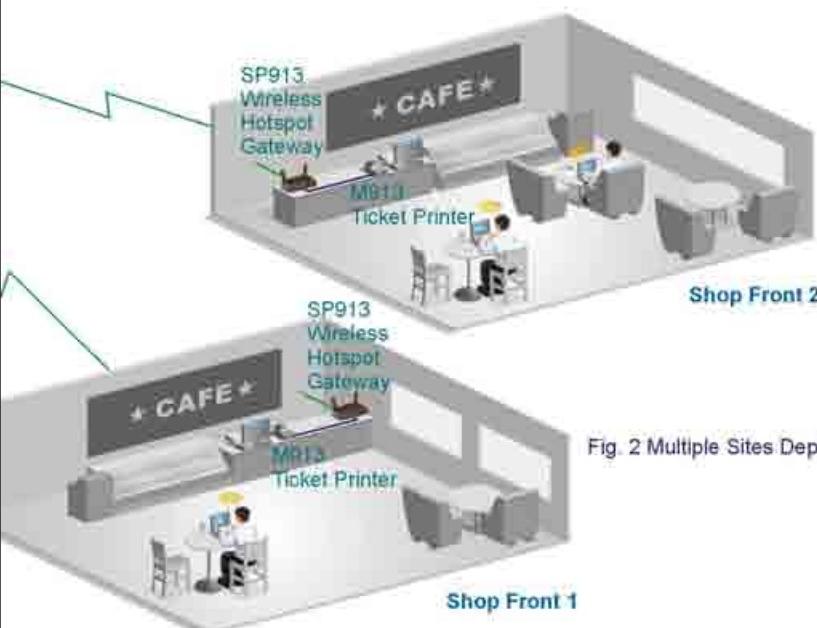


Fig. 2 Multiple Sites Deployment

Hotspot & Network Access Controller

Hotspot Gateway



- ① 10/100M RJ-45 WAN Port
- ② 10/100M RJ-45 LAN Port
- ③ Console Port
- ④ M913 Ticket Printer

SP913
Wireless Hotspot Gateway

	Model No.	SP913
	Description	Wireless Hotspot Gateway
Interface	10/100 Mbps LAN Port, RJ-45	4
	10/100 Mbps WAN Port, RJ-45	1
	Console Port	1 RJ-11 Console Port for Configuration or Ticket Printer
	Dual WAN Fail Over to Backup WAN Connection	-
Hardware	IEEE 802.11b/g Compliant	■
	Frequency Band	2.4GHz
	Wireless Data Rate (Max.)	54M
	WDS (Wireless Distribution System)	■
	Wireless Output Power (Max.)	20 dBm
	Antenna Connector Type	R/SMA
	Operation Channel	FCC (US), ETSI (Europe)
Feature	NAT (Network Address Translation)	■
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Virtual Server (Port Mapping) for Selected Service	■
	Ports Pass-through	■
	Built-in Firewall	■
	UPnP (Universal Plug & Play)	■
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	Attached IP Device Status Monitoring	■
	Client Isolation to Allow Separation Between Users for Security	■
Authen- & Billing	Concurrent User	100
	User Account	500 Local Accounts, 2000 On-demand Accounts
	Authentication Method	POP3, RADIUS, LDAP, NT Domain, Built-in Database
	Credit Card Online Payment for On-demand Account	Authorize.net/PayPal
	Built-in Billing Mechanism	■
Sec- urity	IEEE 802.1x, Network Access Control	■
	WEP, WPA Encryption	■
Others	Management	HTTP, SNMP, Firmware Upgrade
	Power	DC 12V, 1.5A
	Dimension, W x D x H (mm)	243 x 150 x 45.5
	Option	M913 Ticket Printer

Network Access Controller



- ① 10/100M RJ-45 WAN Port
- ② 10/100M RJ-45 LAN Port
- ③ Console Port
- ④ M913 Ticket Printer

SP1910

Network Access Controller

8

2

1 RJ-11 Console Port for Configuration or Ticket Printer

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250

500 Local Accounts, 2000 On-demand Accounts

POP3, RADIUS, LDAP, NT Domain, Built-in Database

-

-

-

-

-

HTTP, SNMP, Firmware Upgrade

DC 12V, 1.5A

243 x 150 x 45.5

M913 Ticket Printer

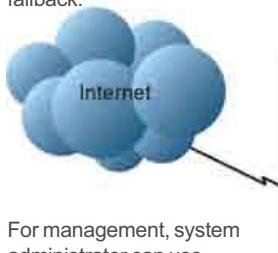
Hotspot Internet Access

SP1910 Network Access Controller is able to play as a security gateway, and create a large scale of hotspot infrastructure. SP1910 supports up to 100 APs monitor in the same LAN environment. These APs can be deployed in different floors. It is an ideal solution to minimize the cost in wired deployment and maintenance for campus, hotel, and community.

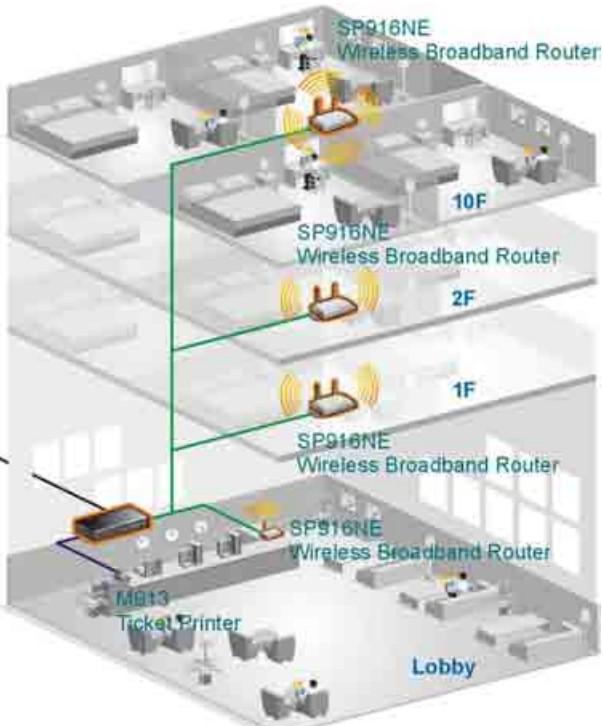
A single SP1910 Network Access Controller is able to support up to 200 concurrent users and 2000 user accounts. The device equips with 4 public LAN ports and 4 private LAN ports. The private LAN ports are enforced by access control.

With failover feature on dual WAN ports, administrator can easily reduce the risk of downtime for Internet access by switching WAN ports automatically. With built-in billing mechanism and receipt-printing features, SP1910 is an excellent tool to generate revenue stream from public Internet services.

SP1910 supports two WAN ports for load balance by connecting different ISPs. To achieve load balance, the administrator can specify the different WAN port for each policy group. With failover feature, SP1910 will automatically redirect the traffic to WAN 2 for Internet access if WAN 1 fails. Upon WAN 1 connection is recovered, the traffic will fallback.



For management, system administrator can use SP1910 remotely to configure IP addresses and security settings for multiple APs by using a single Web interface. Moreover, SP1910 is able to enable/disable or reboot APs.





Broadband Internet

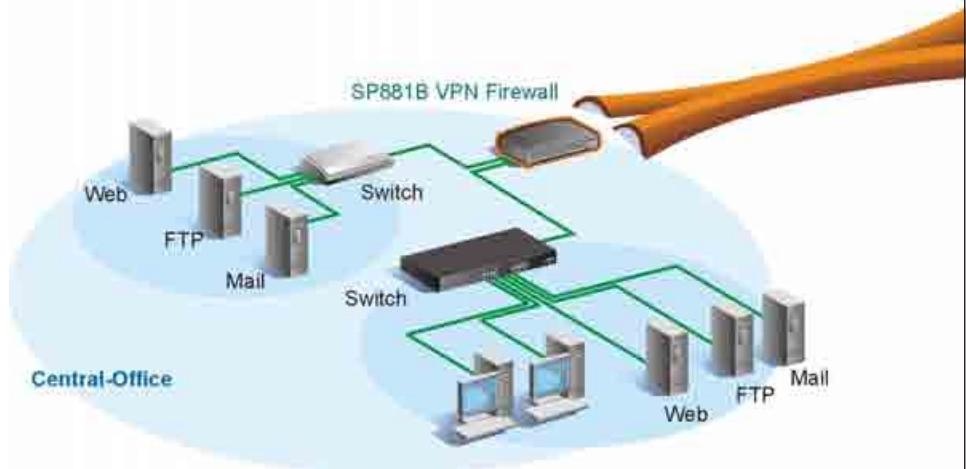
Micronet Broadband Product Series are the ideal solutions for SMB, SOHO & residential users to setup high speed Internet access for their offices or premises.

The Broadband Solution includes the secured VPN connection for enterprises to establish inter-site connection to share corporate resources. In addition, companies requiring extra bandwidth for Internet access can be satisfied with the Multi-WAN Security Gateway.

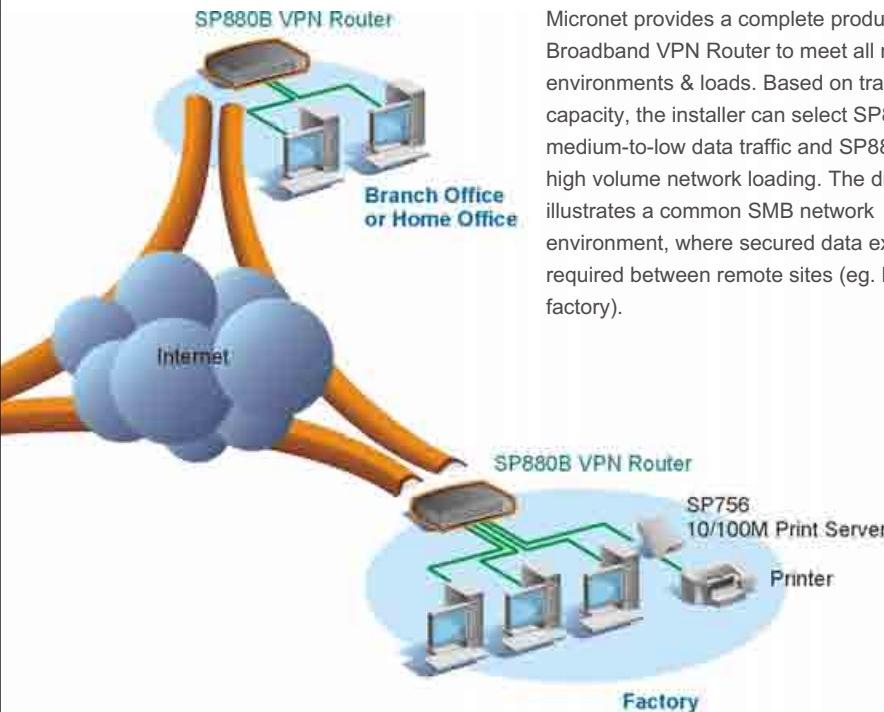


Hardware VPN Solution for SMB Intranet Security

Secured interconnection between various business sectors/branches of an enterprise is a critical issue to all MIS personnel. Implementing a stable and low cost solution for sharing data/resources over the public domain (Internet) is the goal of all business owners. IPSec VPN (Internet Protocol Security Virtual Private Network) is the solution to all SMB (Small & Medium Business) who wishes to connect multiple sites over Internet via a secured VPN tunnel. IPSec protocol is responsible for authenticating and encrypting each IP packets in the data stream. This will ensure private corporate data to be protected from eavesdropper.



Micronet VPN Router Solution utilizes hardware VPN connection for increased data rate performance. In comparison to software VPN connections, hardware enabled solutions are found to be more stable and superior in performance.



Micronet provides a complete product mix of Broadband VPN Router to meet all network environments & loads. Based on traffic capacity, the installer can select SP880B for medium-to-low data traffic and SP881B for high volume network loading. The diagram illustrates a common SMB network environment, where secured data exchange is required between remote sites (eg. branch & factory).

SP881B VPN Firewall is an All-in-One device providing critical features that are essentials to the SMB environment. SP881B comes equipped with the following advanced routing features: Hardware VPN, Hardware DMZ (Demilitarized Zone), Firewall Protection, Bandwidth Control & Priority QoS (Quality of Service).

Broadband Router

VPN Router



- ① LED Indicator
- ② 10/100M RJ-45 WAN Port
- ③ Reset Button
- ④ 10/100M RJ-45 LAN Port

	Model No. Description	SP880B Broadband VPN Router
Hardware	10/100Mbps LAN Port, RJ-45	4
	10/100Mbps WAN Port, RJ-45	1
	10/100Mbps DMZ Port, RJ-45	-
Feature	NAT (Network Address Translation)	■
	Routing for Multi-Path Network	Static/RIPv2
	DHCP for Auto LAN IP Assignment	DHCP Server
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	■
	DMZ (Demilitarized Zone) for Non-Interference Traffic	Multi-DMZ
	Built-in Firewall	SPI/DoS/Ping to Death/Port Scan
	Access Management	URL/Application Filter & Session Limit
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	UPnP (Universal Plug & Play)	■
	VPN IPSec Tunnel	20 Tunnels
Management	VPN Pass Through	IPSec/PPTP
	Traffic Prioritization among Services (QoS)	ToS
	Bandwidth Control for Both Inbound & Outbound Traffic	-
Others	Web-based Management	■
	SNMP Network Monitoring	MIB II
	Statistics / Log	SysLog Server/Email Alert/ Traffic Statistics
Others	Power	DC 5V, 1.5A
	Dimension, W x D x H (mm)	245 x 137 x 30

Firewall Router	Bandwidth Controller	Multi-WAN Router
		
<p>① LED Indicator ② 10/100M RJ-45 LAN Port ③ Hardware DMZ Port ④ 10/100M RJ-45 WAN Port</p>	<p>① LED Indicator ② 10/100M RJ-45 WAN Port ③ Reset Button ④ 10/100M RJ-45 LAN Port</p>	<p>① LED Indicator ② 10/100M RJ-45 WAN2 Port ③ 10/100M RJ-45 LAN Port ④ 10/100M RJ-45 WAN1 Port</p>
SP881B Broadband VPN Firewall	SP883B Broadband Bandwidth Controller	SP891 Multi-WAN Security Gateway
4	4	4
1	1	2
1	—	—
■	■	■
Static/RIPv2	Static/RIPv2	Static/RIPv2
DHCP Server	DHCP Server	DHCP Server
■	■	■
Multi-DMZ	Multi-DMZ	Multi-DMZ
NAT Firewall	SPI/DoS/Ping to Death/Port Scan	SPI/DoS/Ping to Death/Port Scan
URL/Application Filter & Session Limit	URL/Application Filter & Session Limit	URL/Application Filter & Session Limit
■	■	■
■	■	■
30 Tunnels	20 Tunnels	—
IPSec/PPTP	IPSec/PPTP	IPSec/PPTP
ToS	—	ToS
■	■	—
■	■	■
MIB II	MIB II	MIB II
SysLog Server/Email Alert/Traffic Statistics	SysLog Server/Email Alert/Traffic Statistics	SysLog Server/Email Alert/Traffic Statistics
DC 5V, 1.5A	DC 5V, 1.5A	DC 5V, 1.5A
245 x 137 x 30	245 x 137 x 30	245 x 137 x 30

ADSL



ADSL2+ Router

- ① LED Indicator
 - ② 10/100M RJ-45 LAN Port
 - ③ USB PC Port
 - ④ ADSL Line RJ-11 Port

Model No. Description		SP3364C ADSL2+ Modem Router
Standard	ANSI T1.413 Issue 2	■
	ITU G.992.1, G.dmt	■
	ITU G.992.2, G.lite	■
	ITU-T G.992.3, G.dmt.bis	■
	ITU-T G.992.4, G.lite.bis	■
	ITU-T G.992.5, G.dmt.bisplus	■
	ITU-T G. 994.1, G.hs	■
Interface	10/100Mbps LAN Port, RJ-45	4
	ADSL Line, RJ-11	1
	Antenna Connector Type	-
	Reset Button	■
Wireless	Power On/Off Switch	-
	Wireless Date Rate (Max.)	-
	Wireless Output Power (Max.)	-
	Wireless Security	-
	Downstream / Upstream Data Rate	24Mbps/2Mbps
Feature	NAT (Network Address Translation)	8 Virtual Circuits
	Routing for Multi-Path Network	Static, RIPv2
	DHCP for Auto LAN IP Assignment	Server/Relay/Client
	Port Mapping for Selected Service Ports Pass-through	Virtual Server
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Built-in Firewall	SPI
	Access Management	IP/URL/Application
VPN	IGMP Snooping for Multicast Distribution	■
	VLAN for Segmenting LAN Network	Port-based & ATM
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	UPnP (Universal Plug & Play)	■
	VPN IPSec Tunnel	-
QoS	VPN Pass Through	IPSec/PPTP/L2TP
	Traffic Prioritization among Services (QoS)	■
	Bandwidth Control for Both Inbound & Outbound Traffic Management	-
Others	Statistics / Log	HTTP/Telnet/SNMP
	Power	Traffic Statistics/System Log
		DC 12V, 1A

ADSL2+ VPN Router



- ① LED Indicator
 - ② ADSL Line RJ-11 Port
 - ③ 10/100M RJ-45 LAN Port
 - ④ Power Jack

Wireless ADSL2+ Router



- ① Antenna
 - ② LED Indicator
 - ③ ADSL Line RJ-11 Port
 - ④ 10/100M RJ-45 LAN Port



- ① Antenna
 - ② LED Indicator
 - ③ ADSL Line RJ-11 Port
 - ④ 10/100M RJ-45 LAN Port

ADSL

ADSL Modem



- ① LED Indicator
- ② USB Port
- ③ ADSL Line RJ-11 Port

ADSL2+ Router

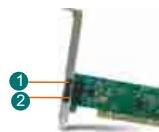


- ① LED Indicator
- ② ADSL Line RJ-11 Port
- ③ Reset Button
- ④ 10/100M RJ-45 LAN Port

	Model No. Description	SP3302A ADSL USB Modem	SP3362C ADSL2+ Modem Router
Standard	ANSI T1.413 Issue 2	■	■
	ITU G.992.1, G.dmt	■	■
	ITU G.992.2, G.lite	■	■
	ITU-T G.992.3, G.dmt.bis	-	■
	ITU-T G.992.4, G.lite.bis	-	■
	ITU-T G.992.5, G.dmt.bisplus	-	■
	ITU-T G.994.1, G.hs	-	■
Interface	CAP (T1 TR-59)	■	-
	10/100Mbps LAN Port, RJ-45	-	1
	USB PC Port	1	-
	ADSL Line, RJ-11	1	1
Feature	Downstream/Upstream Data Rate	8Mbps/832Kbps	24Mbps/1Mbps
	NAT (Network Address Translation)	-	8 Virtual Circuits
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	-	■
	Routing for Multi-Path Network	-	Static/RIPv2
	DHCP for Auto LAN IP Assignment	-	DHCP Server/Relay/Client
	DMZ (Demilitarized Zone) for Non-Interference Traffic	-	■
	Access Management	-	IP/Application Filter
	TR-069 CPE Auto-Provision	-	■
	Traffic Prioritization among Services (QoS)	-	ToS/DSCP
	VPN Pass Through	-	IPSec/PPTP/L2TP
Management	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	-	■
	UPnP (Universal Plug & Play)	-	■
	Management	Utility	HTTP/Telnet
	SNMP Network Monitoring	-	MIB II
Others	Statistics/Log	Error Detection Log	Traffic Statistics/System Log
	Power	USB Powered	DC 12V, 1A
	Dimension, W x D x H (mm)	114 x 80 x 25	104 x 75 x 31

56K Modem

56K Modem



① Phone RJ-11 Port
② Line RJ-11 Port



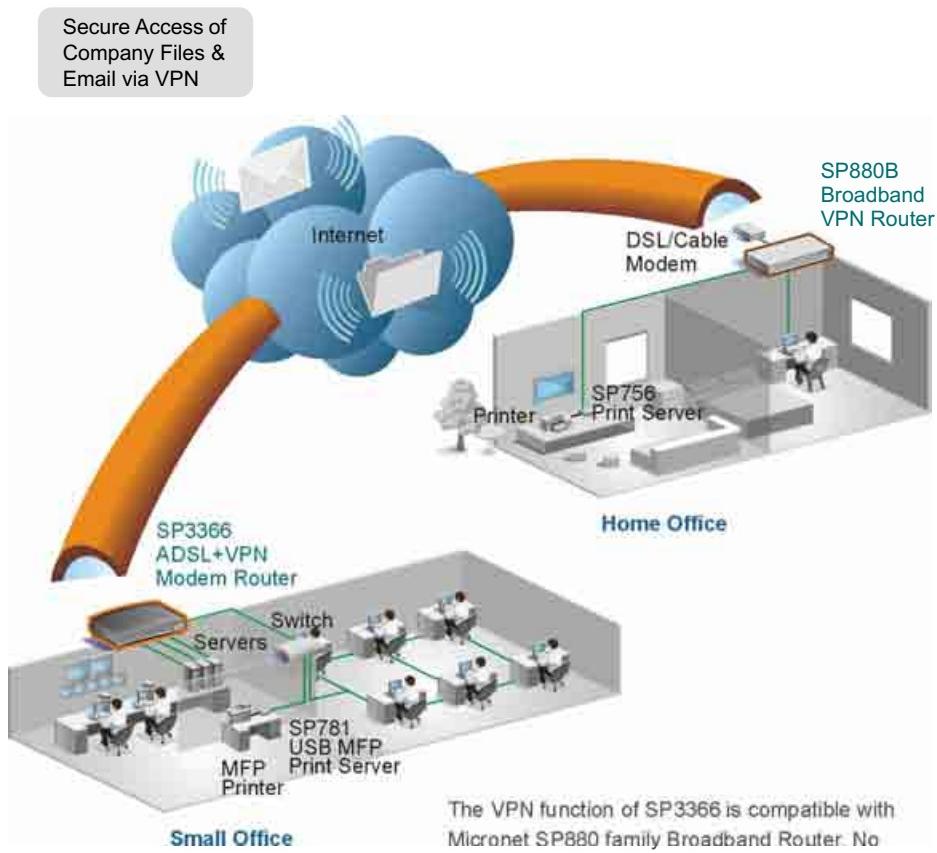
① PCMCIA Interface
② Line RJ-11 Port

Broadband Internet

Model No.		SP3018S	SP150KD
Description		56K Data/Fax PCI Modem	56K Data/Fax PCMCIA Modem
Rate	Downstream	56Kbps	56Kbps
	Upstream	48Kbps	48Kbps
	Data Transmission	ITU-T V.21/V.22bis/ V.32/V.32bis/V.34/V.90/V.92	ITU-T V.21/V.22bis/V.32/ V.32bis/V.34/V.90/V.92, Bell 212A & 103
	Data Compression	V.42bis/V.44, MNP5	
	Error Correction	V.42, MNP2-4	
	Fax Transmission	V.21 Ch2/V.17/V.29/V.27ter, EIA/TIA 578 Class 1, T.31 Class 1.0 Commands	
Standard	Voice	TAM (Telephone Answering Machine)/Half Duplex	
	Video	H.324, V.80	-
	AT Command Set	■	■
	Windows 98SE/ME	■	■
Function	Windows 2000/XP/Vista	■	■
	Windows 7	■	-
	Linux	■	■
	Driver Support		
Interface	Line Port, RJ-11	1	1
	Phone Port, RJ-11	1	■
	PC Connection	PCI	PCMCIA
	Power Bus	PCI Powered	16-bit PCMCIA Powered

VPN Solution for SMB to Achieve Security

Micronet SP3366 ADSL VPN Modem Router integrates ADSL modem and broadband router in one device. More than normal broadband router features DDNS, DMZ host, and some firewall, the SP3366's inbound/outbound is able to share individual bandwidth precisely by IP address and port number. Thus the bandwidth can be used in the key application and the router can work in the optimum state.



The VPN function of SP3366 is compatible with Micronet SP880 family Broadband Router. No matter users have ADSL or cable service, it is the wise choice to select Micronet VPN router to set up the secured network tunnel, either SP3366 or SP880 family.



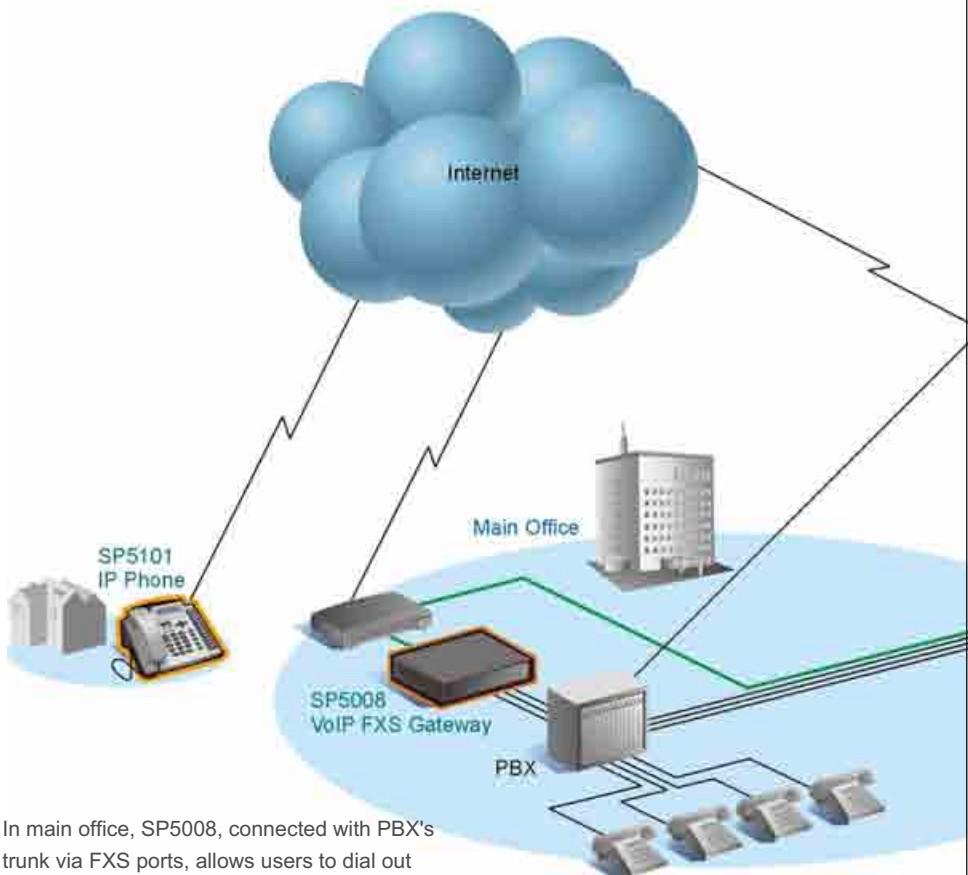
IP Telephony

Micronet IP Telephony Product Series deliver industry-standard technology, legacy integration, and innovation. The complete and cost-effective solutions fulfill the requirements of SOHO, SMB, and enterprise who need to lower telephony cost. Besides, the products are excellent solution for ISP/ITSP to provide the telephony service.

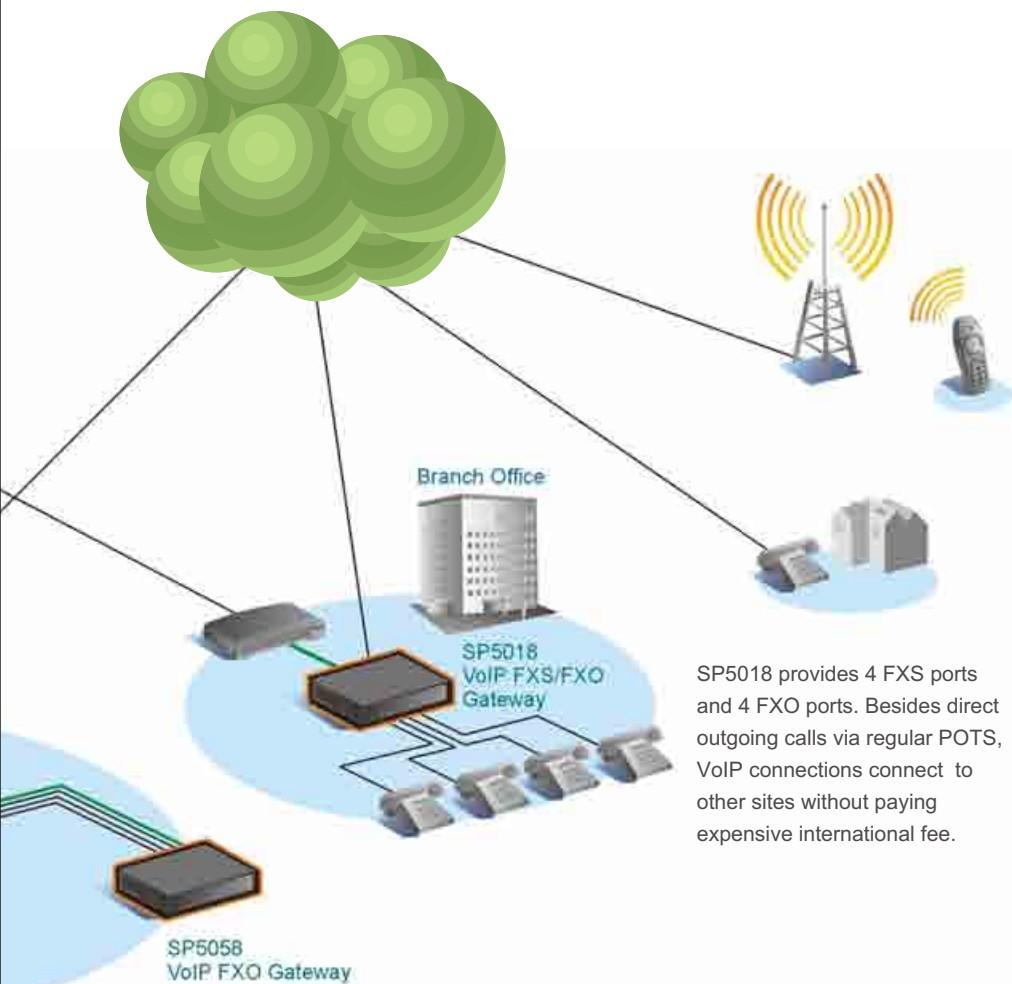


Main/Branch Office VoIP

Micronet VoIP gateways, SP5008, SP5018 and SP5058, are used to build an IP-based voice communication platform among main office and branch offices. Company staffs can make calls with lower expense and keep habitual dialing manners.



In main office, SP5008, connected with PBX's trunk via FXS ports, allows users to dial out through the cost-saving route. In addition, SP5018 is placed in the branch office and used to connect to PSTN. That serves HQ staffs to dial free international calls among the sites, and even to local PSTN with local phone charge only.



SP5058, connected with PBX's extensions, has VoIP links with the IP Phones or FXS gateway at remote sites. HQ staffs are able to make calls to branches simply by dialing the extension numbers.

- 10/100M
- Telephone Line
- Internet

Analog Gateway, FXO

H.323 FXO Gateway



- ① LED Indicator
- ② 10/100M RJ-45 LAN Port
- ③ FXO RJ-11 Port
- ④ Console Port



- ① LED Indicator
- ② 10/100M RJ-45 LAN Port
- ③ FXO RJ-11 Port
- ④ Console Port

	Model No. Description	SP5052A VoIP FXO Gateway	SP5054A VoIP FXO Gateway
STD	IETF SIP	-	-
Interface	ITU-T H.323	■	■
	10/100Mbps WAN Port, RJ-45	-	-
	10/100Mbps LAN Port, RJ-45	2	2
	FXO Port, RJ-11	2	4
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a, G.729b, G.729ab	
	EC (Echo Cancellation)	G.168, Acoustic Echo Cancellation	
	VAD (Voice Activity Detection)	■	■
	CNG (Comfort Noise Generation)	■	■
	Jitter Buffer	Dynamic Jitter Buffer	
	DTMF Relay for Dialing	In-band, RFC2833, H.245, Q.931	
Telephony Feature	Service Domain Registration, SIP Trunk	1	1
	Line Account Registration	2	2
	Outbound Proxy	-	-
	Call Hold	■	■
	Call Transfer	■	■
	Hot Line	■	■
	Call Routing with Digit Manipulation	■	■
	Service Domains Priority/ Cyclic Ring	-	-
	Call Hunting for Incoming Call Dispatching	■	■
	PSTN/SIP Caller ID Selection	-	-
	Caller ID Standards	DTMF, FSK	DTMF, FSK
	T.38 FAX over IP	■	■
Others	Networking	Static IP, DHCP Client, PPPoE, DDNS	
	QoS (Quality of Service)	DSCP	
	Management	HTTP, Telnet, Console	
	Power	DC 12V, 1A	
	Dimension, W x D x H (mm)	230 x 150 x 38	

SIP FXO Gateway

- ① LED Indicator
② FXO RJ-11 Port
③ 10/100M RJ-45 WAN Port
④ 10/100M RJ-45 LAN Port



- ① LED Indicator
② FXO RJ-11 Port
③ 10/100M RJ-45 WAN Port
④ 10/100M RJ-45 LAN Port



- ① LED Indicator
② FXO RJ-11 Port
③ 10/100M RJ-45 LAN Port
④ 10/100M RJ-45 WAN Port

SP5052B/S
VoIP FXO Gateway

SP5054B/S
VoIP FXO Gateway

SP5058A/S
VoIP FXO Gateway

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G.711 A/u-law, G.723.1, G.729a, GSM 6.10

G.711 A/u-law, G.723.1, G.726,
G.729, G.729a

G.168, Acoustic Echo Cancellation

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Dynamic Jitter Buffer

Dynamic Jitter Buffer

In-band, SIP Info, RFC2833

In-band, SIP Info, RFC2833

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DTMF, FSK

DTMF, FSK

DTMF, FSK

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Static IP, DHCP Client/Server, PPPoE, NAT, SNTP, Firewall

Static IP, DHCP Client, PPPoE, NAT, SNTP

ToS, DSCP

ToS, DSCP

HTTP, Telnet, SNMP

HTTP

DC 12V, 1A

DC 12V, 3A

230 x 150 x 38

242 x 160 x 35

Analog Gateway, FXS

SIP FXS Gateway (ATA)



- ① LED Indicator
- ② FXS RJ-11 Port
- ③ 10/100M RJ-45 LAN Port
- ④ 10/100M RJ-45 WAN Port



- ① PSTN RJ-11 Port
- ② FXS RJ-11 Port
- ③ 10/100M RJ-45 LAN Port
- ④ 10/100M RJ-45 WAN Port

	Model No. Description	SP5001C/S VoIP ATA	SP5002A/S VoIP ATA	SP5001D/S VoIP ATA
STD	IETF SIP Compliant	■	■	■
	ITU-T H.323 Compliant	-	-	-
Interface	FXS Port, RJ-11	1	2	1
	PSTN Lifeline, RJ-11	-	-	1
	10/100Mbps LAN Port, RJ-45	1	1	1
	10/100Mbps WAN Port, RJ-45	1	1	1
Voice Processing	Codec	G.711 A/μ-law, G.729a, G.729b, G.726		
	EC (Echo Cancellation)	G.168	G.168	G.168
	VAD (VoiceActivity Detection)	■	■	■
	CNG(ComfortNoise Generation)	■	■	■
	Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer
	Gain/Voice Volume Setting	■	■	■
Telephony Feature	DTMF Relay for Dialing	In-band, SIP Info, RFC2833		
	Service Domain Registration	3	3	3
	Line Account Registration	1	2	1
	Outbound Proxy	■	■	■
	Call Feature	Phone book, Speed dial, Hotline, Dial plan, Call hold, Call transfer, Call waiting, 3-Way conference, Call forward, DND		
	Caller ID Standards	DTMF, FSK	DTMF, FSK	DTMF, FSK
	T.38 FAX over IP	■	■	■
Others	Networking	Static IP, DHCP Client, PPPoE, DDNS NAT, DMZ, Virtual Server, VPN Client (PPTP)		
	QoS (Quality of Service)	ToS, IEEE 802.1p (CoS)		
	Management	HTTP, IVR (via Keypad)		
	Power	DC 12V, 1A		
	Dimension, W x D x H (mm)	195 x 122 x 32		

H.323 FXS Gateway

- ① LED Indicator
② 10/100M RJ-45 Port
③ FXS RJ-11 Port
④ Console Port



- ① LED Indicator
② 10/100M RJ-45 LAN Port
③ FXS RJ-11 Port
④ Console Port

SIP FXS Gateway

- ① LED Indicator
② FXS RJ-11 Port
③ 10/100M RJ-45 WAN Port
④ 10/100M RJ-45 LAN Port



- ① LED Indicator
② 10/100M RJ-45 LAN Port
③ 10/100M RJ-45 WAN Port
④ FXS RJ-11 Port

SP5002
VoIP FXS Gateway

SP5004
VoIP FXS Gateway

SP5004A/S
VoIP FXS Gateway

SP5008A/S
VoIP FXS Gateway

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2	4	4	8
-	-	-	-
2	2	1	3
-	-	1	1

G.711 A/μ-law, G.723.1, G.729, G.729a,
G.729b, G.729ab

G.711 A/μ-law, G.723.1,
G.729a, GSM 6.10

G.711 A/μ-law, G.723.1,
G.726, G.729, G.729a

G.168, Acoustic Echo Cancellation

G.168, Acoustic
Echo Cancellation

G.168, Acoustic
Echo Cancellation

■	■	■	■
■	■	■	■
Dynamic Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer
■	■	■	■
In-band, RFC2833, H.245, Q.931		In-band, SIP Info, RFC2833	
1	1	4	4
2	4	4	4
-	-	■	■

Phone Book, Speed Dial, Hotline, Dial Plan,
Call Hold, Call Transfer, Call Forward

SIP trunk, Service domains priority/cyclic ring,
Serial ring on extension, Call hold, Call transfer,
Call waiting, Call forward, Hotline and warm line,
DID, Speed dial, Anonymous call, DND, Dial
plan, Digit manipulation, CDR, MWI

DTMF, FSK	DTMF, FSK	DTMF, FSK	DTMF, FSK
■	■	■	■
Static IP, DHCP Client, PPPoE		Static IP, DHCP Client/ Server, PPPoE, NAT, SNTP, Firewall	Static IP, DHCP Client, PPPoE, NAT, SNTP
DSCP		ToS, DSCP (DiffServ)	ToS, DSCP
HTTP, Telnet, Console		HTTP, Telnet, SNMP	HTTP
DC 12V, 1A	DC 12V, 1.5A	DC 12V, 1A	DC 12V, 3A
230 x 150 x 38	230 x 150 x 38	230 x 150 x 38	242 x 160 x 35

Analog Gateway, FXS/FXO

H.323 FXS/FXO Gateway



- ① LED Indicator
- ② 10/100M RJ-45 LAN Port
- ③ FXS/FXO RJ-11 Port
- ④ Console

	Model No. Description	SP5014 VoIP FXS/FXO Gateway
STD	IETF SIP	-
	ITU-T H.323	■
	10/100Mbps WAN Port, RJ-45	-
Interface	10/100Mbps LAN Port, RJ-45	2
	FXS Port, RJ-11	2
	FXO/PSTN Port, RJ-11	2
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a, G.729b, G.729ab
	EC (Echo Cancellation)	G.168, Acoustic Echo Cancellation
	VAD (Voice Activity Detection)	■
	CNG (Comfort Noise Generation)	■
	Jitter Buffer	Dynamic Jitter Buffer
	Gain/Voice Volume Setting	■
	DTMF Relay for Dialing	In-band, RFC2833, H.245, Q.931
	Service Domain Registration, SIP Trunk	-
	Line Account Registration	4
	Outbound Proxy	-
	Call Hold	■
	Call Transfer	■
	Call Waiting	FXS only
	Call Forward	FXS only
	Speed Dial	■
	Hot Line	■
	PSTN Bypass Line	2
	Call Routing with Digit Manipulation	■
	Service Domains Priority/Cyclic Ring	-
	Extension Serial Ring	-
	Call Hunting for Incoming Call Dispatching	■
	PSTN/SIP Caller ID Selection	-
	Caller ID Standards	DTMF, FSK
	T.38 FAX over IP	■
Telephony Feature	Networking	Static IP, DHCP Client, PPPoE, DDNS
	QoS (Quality of Service)	DSCP (DiffServ)
	Management	HTTP, Telnet, Console
	Power	DC 12V, 1A
	Dimension, W x D x H (mm)	230 x 150 x 38

SIP FXS/FXO Gateway

- ① LED Indicator
 ② FXS/FXO RJ-11 Port
 ③ 10/100M RJ-45 WAN Port
 ④ 10/100M RJ-45 LAN Port



- ① LED Indicator
 ② FXS/FXO RJ-11 Port
 ③ 10/100M RJ-45 LAN Port
 ④ 10/100M RJ-45 WAN Port

SP5014A/S
VoIP FXS/FXO Gateway

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G.711 A/μ-law, G.723.1, G.729a,
GSM 6.10

G.168, Acoustic Echo Cancellation

Dynamic Jitter Buffer

In-band, SIP Info, RFC2833

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FXS only
FXS only

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2 (PABX mode only)

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FXS only

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DTMF, FSK

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Static IP, DHCP Client/Server,
PPPoE, NAT, SNTP, Firewall

ToS, DSCP (DiffServ)

HTTP, Telnet, SNMP

DC 12V, 1A

230 x 150 x 38

SP5018A/S
VoIP FXS/FXO Gateway

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G.711 A/μ-law, G.723.1, G.726,
G.729, G.729a

G.168, Acoustic Echo Cancellation

Dynamic Jitter Buffer

In-band, SIP Info, RFC2833

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FXS only
FXS only

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4 (PABX mode only)

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FXS only

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DTMF, FSK

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Static IP, DHCP Client, PPPoE, NAT, SNTP

ToS, DSCP (DiffServ)

HTTP

DC 12V, 3A

242 x 160 x 35

IP Phone

Dual Mode Phone



- ① LCD Display
② Function Key
③ Dialing Pad

- ① LCD Display
② Function Key
③ Dialing Pad

	Model No. Description	SP5100 IP Phone	SP5100/S IP Phone
STD	IETF SIP	-	■
	ITU-T H.323	■	-
	IEEE 802.3af, Power over Ethernet	-	-
Interface	10/100Mbps PC Port, RJ-45	1	1
	10/100Mbps LAN Port, RJ-45	1	1
	PSTN Lifeline, RJ-11	1	1
	Headset Jack, RJ-11	-	-
	Display	Backlight LCD, 2 x 24 Dot Matrix	
	Keypad	10 Memory Keys, 8 Fixed Function Keys	
	Function Key LED	■	■
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a, G.729b	
	EC (Echo Cancellation)	G.168	G.168
	VAD (Voice Activity Detection)	■	■
	CNG (Comfort Noise Generation)	■	■
	Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer
	Gain/Voice Volume Setting	■	■
	DTMF Relay for Dialing	In-band, RFC2833, H.245, Q.931	In-band, SIP Info, RFC2833
	Service Registrar (No. of Account)	1	1
	Outbound Proxy	■	■
	STUN (Simple Traversal of UDP through NAT)	-	-
	Concurrent Call	1	1
	Call Hold	■	■
Telephony Feature	Call Transfer	Consultant	Consultant
	Call Waiting	-	-
	3-Way Conference	-	-
	Call Forward	■	■
	Call Pickup	-	-
	Online Recording	-	-
	BLF (Busy Lamp Field)	-	-
	Phone Book	■	■
	Speed Dial	■	■
	Hot Line	■	■
	DND (Do Not Disturb)	-	-
	Caller ID Display	■	■
	MWI (Message Waiting Indicator)	-	-
Others	Networking	Static IP, DHCP Client, PPPoE ToS	
	QoS (Quality of Service)	HTTP, Telnet	
	Management	HTTP, TFTP	
	Firmware Upgrade	DC 9V, 1A	
	Power	215 x 198 x 71	
	Dimension, W x D x H (mm)		

IP PBX

IP PBX for ROBO (Remote Office Branch Office)



- ① LED Indicator
- ② Reset Button
- ③ 10/100M RJ-45 LAN Port
- ④ 10/100M RJ-45 WAN Port

Model No. Description		SP5208 IP PBX ROBO
Interface	IETF SIP 10/100Mbps WAN Port, RJ-45 10/100Mbps LAN Port, RJ-45 FXS Port, RJ-11 FXO Port, RJ-11	■ 1 4 6 2 (PSTN Bypass Line)
Capacity	SIP Trunk Extension Concurrent NAT RTP Call	1 Max. 6 Max. 6
Voice Processing	Video Codec Voice Codec Voice Feature	G.711 A/μ-law, G.723.1, G.729, G.729a VAD, CNG, Silence Suppression, Echo Cancellation (G.165 / G.168), Adaptive Jitter Buffer, Packet Loss Compensation, Adjustable volume level
Telephony Feature	DTMF Relay for Dialing Call Control	In-band, SIP Info, RFC2833 <ul style="list-style-type: none">• SIP trunk and PSTN trunk• Company representative SIP number setting• Extension calling among FXS ports• Call hold, Call transfer, Call forward, and Speed dial• Operator priority / parallel ring• PSTN prefix routing• FXS ports (T1, T2) with bypass line from PSTN• PSTN backup for power/register failure• T.38 & G.711 (pass-through) FAX
PBX Feature	IVR (Interactive Voice Response) Customizable IVR Work Time Setting Voicemail Notification Voicemail Storage Voicemail Access Control	■ ■ — — — —
Others	System Administration NAT Traversal Networking Power Dimension, W x D x H (mm)	CDR, Web-based User Interface (HTTP), Telnet RTP Proxy Static IP, PPPoE, DHCP Server / Client, NAT, SNTP DC 12V, 3A 242 x 160 x 35

IP PBX for SMB

- ① 10/100M RJ-45 LAN Port
- ② 10/100M RJ-45 WAN Port
- ③ USB Port
- ④ FXS/FXO Port

SP5211
IP PBX ROBO

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Max. 10

Max. 30

Max. 13

H.263 & MPEG4 Pass-through

G.711 A/μ-law, G.729a, GSM

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In-band, SIP Info, RFC2833

- Call hold, Call transfer, Call waiting, and 3-way conference
- Call forward (Busy, No Answer, Unconditional, Unavailable)
- Busy Call Back (Camp-on)
- BLF (Busy Lamp Filed)
- Call Park (20 available lines)
- Call Pickup (Global / Group / Direct)
- Meet-Me Conference
- Group Ring and Broadcast
- Speed Dial
- DID (Direct Line) and DOD
- Dial Plan and Digit Manipulation
- Personal password for outbound call
- CLIR for anonymous calling
- DND (Do Not Disturb)
- T.38 & G.711 (pass-through) FAX

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E-mail and MWI

1GB

PIN Code

Call Monitoring, CDR, Web-based User Interface (HTTP)

STUN, RTP Proxy

Static IP, PPPoE, DHCP Server/Client, DNS, SNTP

DC 12V, 1A

230 x 150 x 38

IP PBX

IP PBX for SMB



- ① 10/100M RJ-45 LAN Port
- ② 10/100M RJ-45 WAN Port
- ③ USB Port
- ④ FXS/FXO Port

Model No. Description		SP5325 Series IP PBX SMB (30 - 70 users)
Interface	IETF SIP	■
	10/100Mbps WAN Port, RJ-45	1
	10/100Mbps LAN Port, RJ-45	4
	FXS Port, RJ-11	Max. 4
	FXO Port, RJ-11	Max. 4
	Telecom Interface	4FXO/1FXS+3FXO
Capa- city	PSTN Bypass Line	Max.1
	USB 2.0	1
	SIP Trunk	Max. 95
	Extension	Max. 70
Feature	Concurrent NAT RTP Call	Max. 25
	Voice Feature	G.168 Echo Cancellation, AEC, VAD, CNG, Dynamic Jitter Buffer, Gain Adjustment, Disconnect Tone Detection (FXO) In-band, SIP Info, RFC2833
Telephony Feature	DTMF Relay for Dialing	• Call hold, Call transfer, Call waiting, and 3-way conference
	Call Control	• Call Forward (Busy, Unconditional, No Answer, Find Me, Selective) • Busy Call Back (Camp-on) • Call Park/Retrieve and Call Pickup (Group/Direct) • Intercom and Call Paging via IP Phone speaker • Schedule-based Memo Call and Broadcast • Group Ring • Lifeline Priority Call (Emergency Call) • DID (Direct Line) and DOD • Speed Dial • DND and Call Block (for anonymous call or blacklist) • On-Line Call Recording (SP5103/SP5104 only)
	Meet-Me Conference	Max. 8 Parties
	ACD (Auto Call Distribution)	-
PBX Feature	IVR (Interactive Voice Response)	3-layer IVR
	Prompt management	■
	Work Time Setting	■
	Multilingual	1
	Voicemail Notification	E-mail, MWI, VMWI
	Voicemail Storage	512MB
Others	Voicemail Access Control	PIN Code
	Fast-Forward/Rewind/Undelete	■
	System Administration	Setup Wizard, Web-based User Interface (HTTP), SIP UA Status, Call Monitoring, CDR, SNMP
	Stackable Management	-
	Auto Provisioning for IP Phone	SP5103/SP5104 only
	NAT Traversal	STUN Client, RTP Proxy
	Networking	Static IP, PPPoE, DHCP Server/Client, DNS, DDNS, SNTP, MAC Clone, NAT, DMZ, Virtual Server, Static Route, Firewall, ToS
	Power	DC 12V, 2A, 24 Watts (max)
	Dimension, W x D x H (mm)	300 x 155 x 38

IP PBX for Enterprise



- ① FXS/FXO Port
- ② USB Port
- ③ WAN RJ-45 Port
- ④ LAN RJ-45 Port

SP5350PRO

IP PBX Enterprise (100 - 200 users)

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Max. 8

Max. 12

4FXO, 8FXO, 1FXS+3FXS, and 4FXS Optional Interface Card*

Max.2

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Max. 250

Max. 200

Max. 50

G.168 Echo Cancellation, AEC, VAD, CNG, Dynamic Jitter Buffer,
Gain Adjustment, Disconnect Tone Detection (FXO)

In-band, SIP Info, RFC2833

- Call hold, Call transfer, Call waiting, and 3-way conference
- Call Forward (Busy, Unconditional, No Answer, Find Me, Selective)
- Busy Call Back (Camp-on)
- Call Park/Retrieve and Call Pickup (Group/Direct)
- Intercom and Call Paging via IP Phone speaker
- Schedule-based Memo Call and Broadcast
- Group Ring
- Lifeline Priority Call (Emergency Call)
- DID (Direct Line) and DOD
- Speed Dial
- DND and Call Block (for anonymous call or blacklist)
- On-Line Call Recording (SP5103/SP5104 only)

Max. 24 Parties

32 Service Queues, 200 Agents, 5 Policies
(Round robin, Ring all, Least recent, Fewest call, Random)

3-layer IVR

■

Max. 3

E-mail, MWI, VMWI

40GB

PIN Code

■

Setup Wizard, Web-based User Interface (HTTP),
SIP UA Status, Call Monitoring, CDR, SNMP

4 Units Stacking

SP5103/SP5104 only

STUN Client, RTP Proxy

Static IP, PPPoE, DHCP Server/Client, DNS, DDNS, SNTP,

MAC Clone, NAT, DMZ, Virtual Server, Static Route, Firewall, ToS

AC 100-240V, 40 Watts

440 x 315 x 44

Digital Gateway

VoIP Trunk Gateway

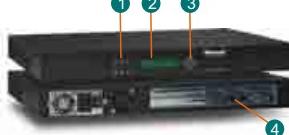


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| ① LED Indicator
② LCD Display
③ Control Panel
④ RTP Ethernet RJ-45 Port | ⑤ Host Ethernet RJ-45 Port
⑥ E1/T1 Trunk Port |
|--|--|

	Model No. Description	SP5060 VoIP E1/T1 Trunk Gateway	SP5064 VoIP E1/T1 Trunk Gateway
Standard	IETF SIP ITU-T H.323 PSTN Signaling	■ ■ ■	■ ■
Interface	E1/T1 Trunk Line 10/100Mbps Host Ethernet Port, RJ-45 10/100Mbps RTP Ethernet Port, RJ-45 RS-232 Console	1 1 1 1	4 1 1 1
Telephony Feature	Voice Processing Call Feature	<ul style="list-style-type: none"> • G.711A/u-law, G.723.1, G.729 Codecs • VAD, CNG, G.168 Echo Cancellation, Silent Suppression, Adaptive Jitter Buffer, Configurable Payload Size <ul style="list-style-type: none"> • ANI/DNIS Access List • DID/DOD, Intelligent PSTN Call Routing • In-Trunk Hunting Method • Built-in IVR and Billing System • Digit Manipulation, ANI/ DNIS Replacement • DTMF Relay: In-band, SIP Info, RFC2833 	
Advanced Feature	Controller of Built-in IVR and Call Flow AAA (Authentication, Authorization, Accounting)	<ul style="list-style-type: none"> • Web UI Drag and Drop Interface • Full Control of Call Behavior • IVR for PSTN/SIP/ H.323 Incoming Call • Play Credit Time Duration, Play Credit Balance • Power Call Information Branch, Collected Information Validation • Active Disconnect & Reconnect without Hang-up • Selected Disconnect Cause Code & Behavior <ul style="list-style-type: none"> • External AAA: Call Detail Record (CDR), RADIUS, PSTN/VoIP Prepaid Support • Embedded AAA: Embedded Prepaid/Postpaid Service, Point/Second Calculation, Second/Point Calculation, PSTN/VoIP Prepaid Support 	
Others	Networking NAT Traversal Management Power Dimension, W x D x H (mm)	DHCP Client, SNTP, TFTP/FTP Client Outbound Proxy HTTP, Telnet, SNMP, Console, Push Button on Front Panel AC 100 - 240V 483 x 450 x 44	

SIP Proxy Server

SIP Proxy Server

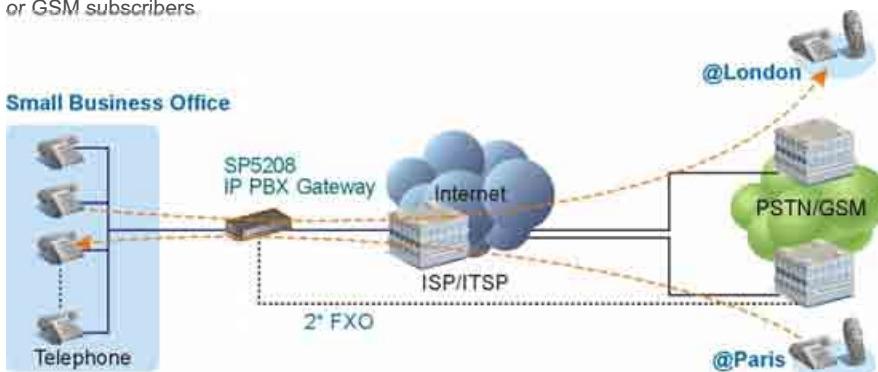


- ① LED Indicator
- ② LCD Display
- ③ Control Panel
- ④ 10/100M RJ-45 Port

Model No. Description		SP5210 SIP Server	SP5210-200 SIP Server	SP5210-500 SIP Server	SP5210K SIP Server
Capacity	IETF SIP Subscriber	■	■	■	■
	Concurrent Call	2000	200	500	20000
	Concurrent NAT RTP Call	200	50	100	2000
	10/100Mbps WAN Port, RJ-45	100	50	100	384
	10/100Mbps LAN Port, RJ-45	1	1	1	1
	RS-232 Console	1	1	1	1
	SIP Register	<ul style="list-style-type: none"> • Dynamic Register, Predefine User (up to 2 URI), Predefine NAT User, Registrar Authentication MD5, Register Type Selection • Register to Multiple External Softswitch or Proxy • Separate NAT/Normal Register TTL, Effective/Expired Date, Global or Subscriber based Register TTL • Programmable Nonce Live Time, Programmable Authentication Check Period • Programmable General Max Register Time, Programmable Max NAT Register Time 			
	Proxy	<ul style="list-style-type: none"> • Stateful Proxy Server, Call-based Authentication MD5/RADIUS • Sequential Call Forking, Parallel Call Forking (Programmable Ring or Answer) • Proxy Peering Support, Hierarchical Proxy Support • Subscriber/System based Response Timer (No Answer/First Response) • Auto NAT User Detection 			
	Call Control	<ul style="list-style-type: none"> • Call Transfer, Call Waiting, Call Hold, Call Forward • Calling/Outgoing Number Screening, Call Hunting Group, Ring All with First Ring Back/Answer Group Hunting • Digit Manipulation • Caller ID Privacy • Emergency Call, Call Pickup, Find Me • Short Code, DND, Coloring Ring Back Tone Service, Announcement Service • VMS, Miss Call Notify by Email 			
	NAT Traversal	<ul style="list-style-type: none"> • Outbound and Inbound NAT Traversal, Automatically NAT Detection and RTP Proxy • External RTP Proxy Resource, Preferred NAT Resource Server • Enhanced NAT Partition, Intelligent RTP Proxy Resource Management 			
Others	AAA (Authentication, Authorization, Accounting)	<ul style="list-style-type: none"> • Flat CDR File in Local Storage • RADIUS Billing Message, Redundant RADIUS Server, RADIUS Authorization Message for Prepaid Service • Call Disconnect for Prepaid User 			
	Subscriber Access	Subscriber Access Control, Separate Web Password, User Group, Subscriber Logon, Disallow NAT Register			
	Management	HTTP, Console, Telnet, SNMP			
Power		AC 100 - 240V			
Dimension, WxDxH (mm)		483 x 450 x 44			

IP PBX Gateway (with PSTN Backup) for Trading Company, Travel Agency, or Small Business

The SP5208 IP PBX Gateway supports 6 FXS and 2 FXO ports for direct installation, with the legacy telephone system, and is designed to save users from complicated installation procedures. Without extra configuration on the SP5208, users can start to have extension calling to each others by just plugging the lines from telephones after the SP5208 is powered on. Via FXO connections with PSTN lines, users can have phone calls with PSTN or GSM subscribers.



Multiple Call Routes via IP/POTS with Non-stop Operation

Company may still need a representative PSTN number for customers to call. SP5208 supports 2 FXO ports to connect to receive daily phone calls from PSTN/GSM, if direct calling with PSTN number to VoIP network is not supported by ITSP. SP5208 supports 2 FXS ports with bypass lines from the 2 FXO ports for PSTN backup. In case of power or network failure, users still can receive and make calls via PSTN lines. Besides the default route via SIP trunk, SP5208 supports PSTN prefix routing for dialing via PSTN. When specific prefix can be configured in the system, the specific callings via PSTN are allowed. SP5208 IP PBX Gateway is an ease-to-use device that supports plug-n-play features and only needs few simple configurations more. It's suitable to small business/office that demands for few extensions or deploys extensions in specific locations, and helps to achieve goals of the efficiency and cost saving easily.

Considerate Design of Built-in PBX Functionalities

The SP5208 IP PBX Gateway supports SIP trunk to register with ITSP. All extensions under SP5208 can access the cost-saving call route provided by ITSP. That dramatically saves the small business from the expense of long-distance and international calls. Besides, single registration account is needed for all users to make calls, and there's no need for more accounts that charge for each.

SP5208 supports PBX functionalities for user's convenient communications. In addition to the features as above, SP5208 supports simple IVR (Interactive Voice Response) like legacy PBX. The automated attendant (plus operator assignment) helps business attend the incoming calls from SIP or PSTN/GSM.



KVM Switch

With server deployments in data centers and among corporates on the rise, KVM switches are gaining acceptance. Cost savings accruing from a single switch that control thousand of servers are behind this technology's popularity.

With the market accepting these products, Micronet is eyeing this space and believes that remote management is set to become popular in market. It has been proved by getting the enthusiastic response to the IP based KVM, SP1200A.

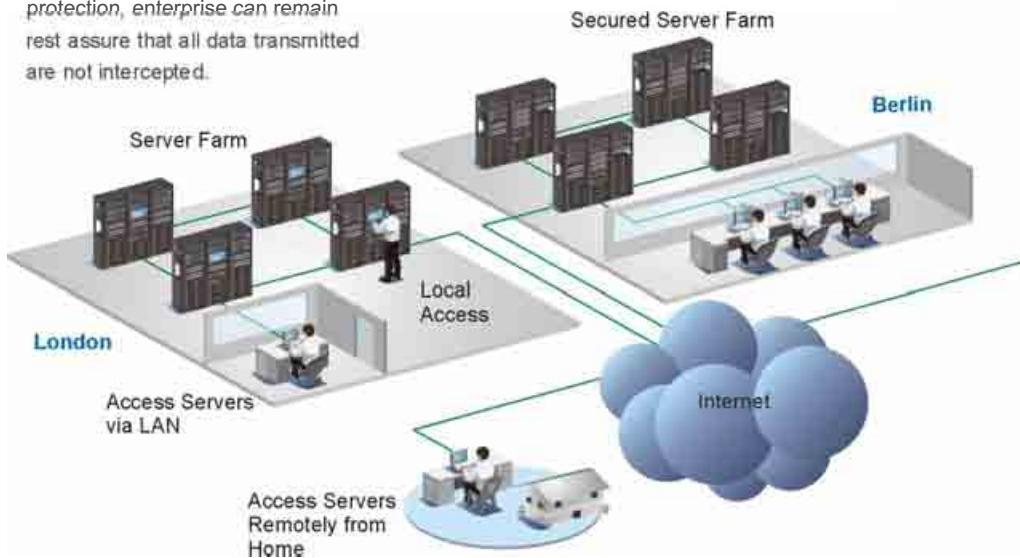
In the coming year, Micronet will keep going on developing new technology such as the new trend of Digital visual interface (DVI). Based on customers' demands, we will release the best solution for keyboard-mouse-monitor application.

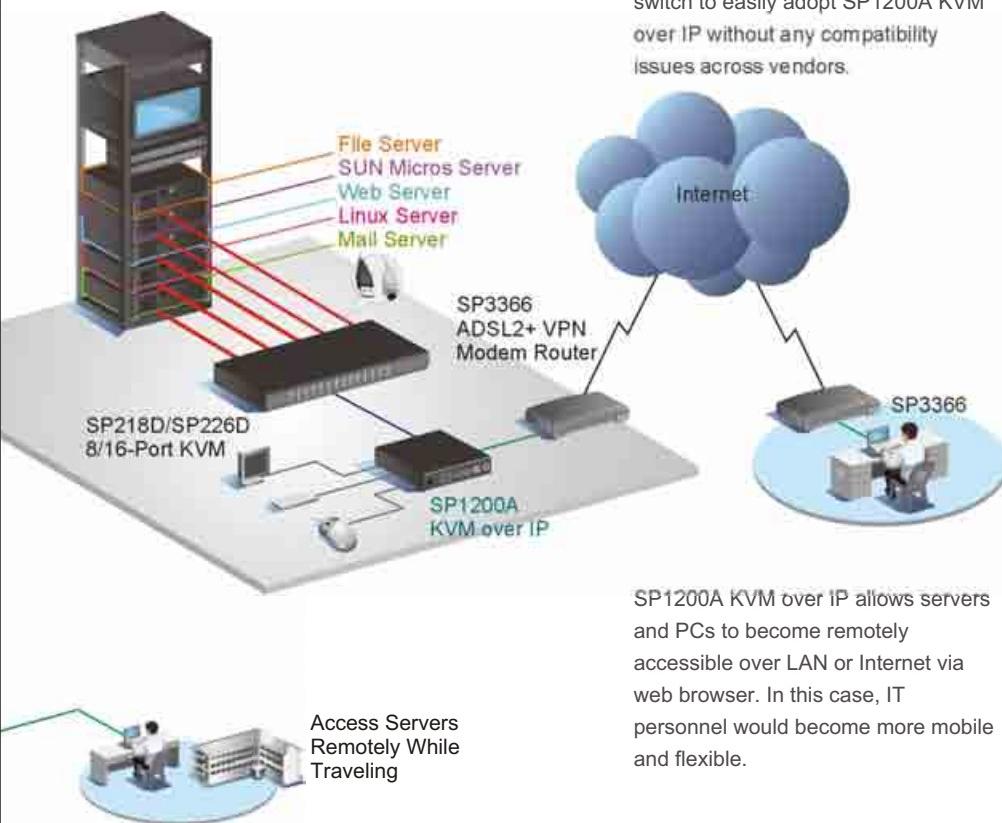


KVM over IP for Boundless Remote Server Access via Internet

KVM (Keyboard Video Mouse) solutions are the key to making management for server farm more efficient and economical. KVM switches allow servers/PCs at multiple floors to be managed in a centralized location. Only a single set of equipment (monitor, mouse & keyboard) is needed to operate hundreds of servers located in the server farm. KVM over IP is the next innovative step by the industry to further extend the mobility and flexibility of server access. From the diagram to the right, the MIS personnel can remotely access the KVM/Server via local network or over the Internet. Not being restricted by time and space, the administrators can assert tighter control over the enterprise network system. Remote access over the Internet will become a key aspect for successful deployment of the solution.

SP1200A KVM over IP will authenticate each connected client via Certified Authority (CA) and only the certified PC can be connected. By using HTTPS encryption protection, enterprise can remain rest assure that all data transmitted are not intercepted.





SP1200A KVM over IP can work in conjunction with 8/16-Port KVM to allow multiple servers' screen images to be transmitted over the Internet. Besides, Micronet 8/16-port KVM and SP1200A KVM over IP can Support SUN Micros Servers other than PC Servers.

Desktop KVM Switch

USB Desktop KVM Switch



- ① Push Button
- ② Console for Monitor
- ③ PC Connection
- ④ Console for Keyboard/Mouse

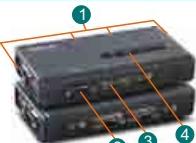
SP212D

2-Port USB KVM Switch

Model No.	Description	
Hardware	PC Port Number	2
	PC Connection	HDB 15-pin Female
	Local Console for Peripheral Device	Video: HDB 15-pin Female, Mouse/Keyboard: USB
	Speaker	-
	Microphone	-
Cable	KVM Cable (Host)	Video/Mouse/Keyboard: HDB 15-pin Male
	KVM Cable (PC)	Video: HDB 15-pin Female, Mouse/Keyboard: USB
Operation	Push Button on Device for Port Selection	■
	Hotkey for Quick Keyboard Control	■
	Mouse/Keyboard Emulation	USB
	Auto Scan Interval (Sec) for Monitoring PC/Server	10 - 60
	Scrolling & Multi-Button Mouse	■
Others	Hot Plug & Play	■
	Video Resolution	2048 x 1536
	Utility	■
	OS Support	Windows, Mac OS, Linux
	Dimension, W x D x H (mm)	96 x 61 x 24

PS/2 Desktop KVM Switch

KVM Switch



- ① PC Connection
② Console for Keyboard/Mouse
③ Console for Monitor
④ Push Button



- ① Push Button
② Console for Monitor
③ PC Connection
④ Console for Keyboard/Mouse



- ① PC Connection
② Console for Keyboard/Mouse
③ Console for Monitor
④ Push Button

SP214D

4-Port USB KVM Switch with Audio

4

HDB 15-pin Female

SP212EL

2-Port PS/2 KVM Switch

2

HDB 15-pin Female

SP214EL

4-Port PS/2 KVM Switch

4

HDB 15-pin Female

Video: HDB 15-pin Female,
Mouse/Keyboard: USBVideo: HDB 15-pin Female,
Mouse/Keyboard: PS/2Video: HDB 15-pin Female,
Mouse/Keyboard: PS/2

3.5mm Audio In/Out Jack

-

-

3.5mm MIC In/Out Jack

-

-

Video/Mouse/Keyboard:
HDB 15-pin MaleVideo/Mouse/Keyboard:
HDB 15-pin MaleVideo/Mouse/Keyboard:
HDB 15-pin MaleVideo: HDB 15-pin Female,
Mouse/Keyboard: USBVideo: HDB 15-pin Female,
Mouse/Keyboard: USBVideo: HDB 15-pin Female,
Mouse/Keyboard: USB

■

■

■

■

■

■

USB

PS/2

PS/2

10 - 60

5 - 100

5 - 100

■

■

■

■

■

■

2048 x 1536

2048 x 1536

2048 x 1536

■

-

-

Windows, Mac OS, Linux

Windows, Linux

Windows, Linux

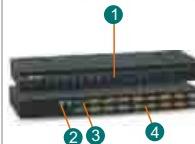
164 x 72 x 26

96 x 61 x 24

164 x 72 x 26

Rack Mount KVM Switch

Rack Mount KVM Switch



- ① LED Indicator
- ② Console for Monitor
- ③ Daisy Chain
- ④ PC/Server Connection



- ① Console for Keyboard/Mouse
- ② Keyboard/Mouse Console for Monitor
- ③ PC/Server Connection
- ④ Extension RJ-45 Port



- ① Redundancy Power
- ② Virtual USB Storage
- ③ PC/KVM Connection
- ④ 10/100M RJ-45 Port

KVM Switch	Model No. Description	SP218D/SP226D 8/16-Port Combo KVM	SP201-180 KVM Extender	SP1200A KVM over IP
Hardware	PC Port Number	8/16	KVM or PC x 1	KVM or PC x 1
	Daisy Chain	8 Banks *1,2	-	KVM Dependent*3
	PC/KVM Connection	HDB 15-pin Female	Integrated D-Sub 25 Female	Video: VGA HDB 15-pin Female Mouse/Keyboard: PS/2
	Local Console	Video: VGA HDB 15-pin Female, Mouse/Keyboard: PS/2		
Cable	Other Interface	-	Extension Port, RJ-45	<ul style="list-style-type: none"> • 10/100Mbps LAN Port, RJ-45 • Virtual Storage Port, USB 2.0 *4 • Serial Console Port, RS-232 • Redundancy Power Port x 2
	KVM Cable (Host)	Video/Mouse/Keyboard: HDB 15-pin Male	HDB 25-pin Male	Video: HDB 15-pin Male Mouse/Keyboard: PS/2
Operation	KVM Cable (PC)	Video: VGA HDB 15-pin Female, Mouse/Keyboard: PS/2	Video: VGA HDB 15-pin Female, Mouse/Keyboard: PS/2	
	Auto Scan Interval (Sec) for Monitoring PC/Server	5 - 99	-	-
	Hot Plug & Play	■	-	-
	KVM over IP/LAN	-	-	■
	Push Button on Device for Port Selection	■	■	-
	Hotkey for Quick Keyboard Control	Hotkey Control	-	Hotkey Control/Hotkey Mapping
	Mouse/Keyboard Emulation	USB & PS/2	PS/2	USB & PS/2
	Video Resolution	1920 x 1440	1280 x 1024	1600 x 1200
	OS Support	Windows, Mac OS, Sun Micro System, Unix, Linux, NetWare	Windows, Unix, Linux, NetWare	Windows, Mac OS, Sun Micro System, Unix, Linux, NetWare
Others	Management	OSD Interface	-	HTTP/Telnet
	Desktop	-	■	■
	Rack Mount Dimension, W x D x H (mm)	470 x 190 x 44	194 x 85 x 25	190x 110 x 40

Note: 1. SP218D can intermix with SP226D when stacking.

2. The maximum PCs number place in a stack is 120 for SP218D and 128 for SP226D.

3. SP1200A is compatible with other brand of KVM switch with PS/2 interface.

4. Virtual Storage port provides user an alternative USB drive to save and access files on the SP1200A, KVM over IP.

Product specification is subject to change without prior notice.



IP Surveillance

Micronet IP Surveillance products cover not only the consumer market but also the professional applications market. With cutting-edge data compression technology-H.264, Micronet truly realizes the benefits for IP based surveillance systems- the superior video quality, high performance, low bandwidth and low storage requirements. H.264 makes IP cameras save the consumers more than half of bandwidth and storage capacity comparing with the traditional MPEG-4 compression technology.

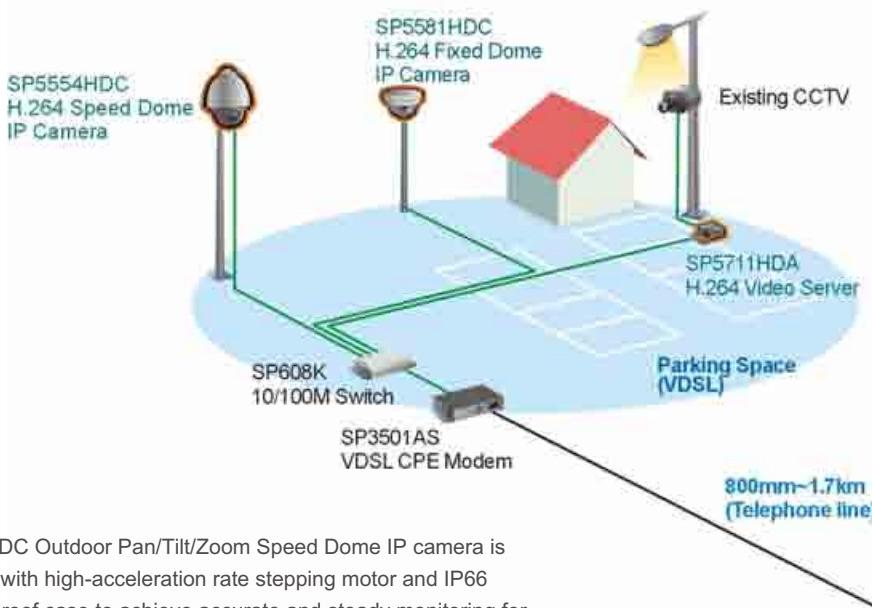
By varieties of the elements such as box/dome type cameras, weather-proof case design, day & night IR function, varied-focal lens, PTZ, and audio features...etc, Micronet IP cameras are flexible and cost effective for various demands applying for the surveillance applications market. Micronet can also provide the video servers to integrate the existing CCTV systems into IP network world. Users can enjoy the convenience of using the existing CCTV, while adapting them into the IP-based systems.

Furthermore, Micronet surveillance product are all friendly and easy for the installation. Users can install and maintain Micronet IP camera products quickly and easily to enjoy all the benefits of surveillance.



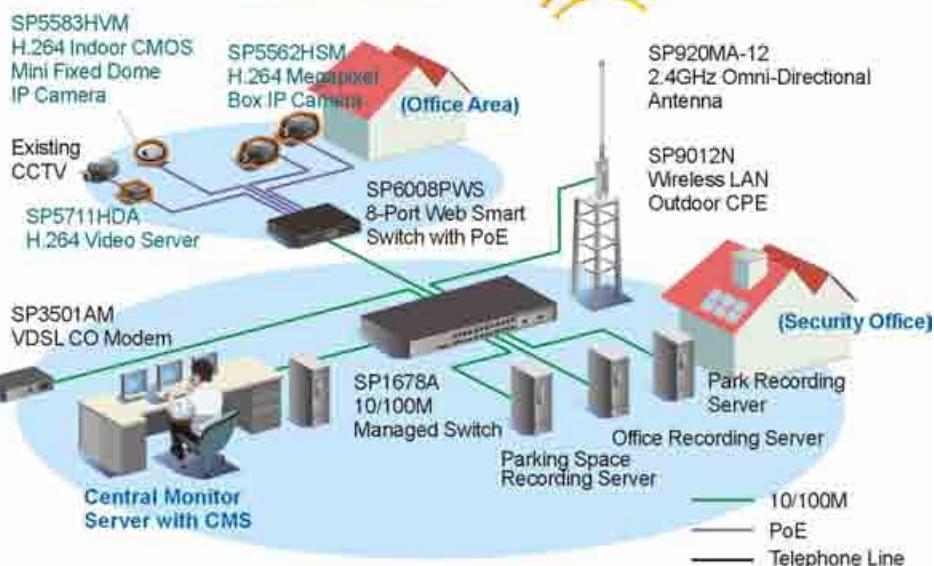
Total Solution for IP Surveillance Demands

High security protection is the critical issue for those administrative staffs when they are going to construct wide area parklands (e.g., hospitals, national parks, public buildings, and public squares). Good surveillance system can save the effort on patrol and provide excellent real-time monitoring capability. Micronet IP Surveillance products provide professional solution with its high quality, mega-pixel resolution, and advanced H.264 stream compression technique, that is able to meet the most of video monitoring requirement and better security purpose. In addition, Micronet IP Surveillance products are fully compatible with its camera management software. Micronet offers this NVR software that can supports up to 36 channels monitoring capability, and will helps SMB implement video security to reach the goal of TCO (total cost of ownership). Thus, Micronet IP Surveillance whole package will helps manage many of distributed properties and provides much better service for human safety control.



SP5554HDC Outdoor Pan/Tilt/Zoom Speed Dome IP camera is equipped with high-acceleration rate stepping motor and IP66 weather-proof case to achieve accurate and steady monitoring for professional outdoor surveillance applications. SP5554HDC features its sensitivity-enhanced Sony Ex-view CCD sensor and built-in IR illuminator around lens to bring the clearest vision at night. Inaddition to the cost, SP5554HDC's function-steady PTZ motor makes repairing cost much lower, and further makes professional surveillance implementation affordable.

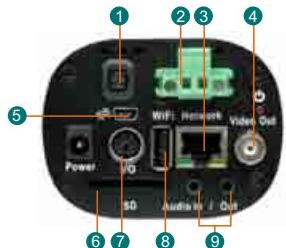
SP5573HDC Industrial Outdoor Box IP Camera operates perfectly even in the temperature -25-50°degree C for the demand of harsh working environment. With maximum 80 meters of infrared night view range, SP5573HDC is installed to help national park administrator catch every move of nocturnal animals and take care the living without neglect.



Indoor Box IP Camera

H.264/ MPEG-4/M-JPEG IP Camera

- ① Auto Iris Control Adaptor
- ② Terminal Block 2 Port
- ③ RJ-45 Ethernet Port
- ④ Vedio Out
- ⑤ USB Config Port
- ⑥ SD Card Socket
- ⑦ Mini-Din I/O Socket
- ⑧ USB Host for Wi-Fi Support
- ⑨ Audio Line in/Audio Line Out



	Model No. Description	SP5561HDC Gaia Indoor Box IP Camera	SP5561HVM Gaia Indoor Box IP Camera
Sensor & Lens	Image Sensor	1/3" Sharp CCD	1/4" Low-light sensitive CMOS
	Lens Type	Optional (M610, M611, M612, M613, M614) or CS Mount Lens	
	Minimum Illumination	0.1 Lux	0.5 lux
	Compression Format	M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously	
	Image Resolution	D1, CIF, QCIF	VGA, QVGA, QQVGA
	Frame Rate	Up to 30fps (NTSC)/ 25fps (PAL) @ D1	Up to 30fps @ VGA
	Image Setting	Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay	
	Horizontal Resolution	520 TV Lines	-
	Audio Support	2-way (Audio In/Out)	
	Audio Compression	Audio In/Out : ADPCM	
System	Alarm Input/Output	Digital Input x1, Digital Output x1	
	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP	
	PoE Support	■	■
Others	802.11 b/g Wi-Fi Support	USB Port for External Wi-Fi Adapter	USB Port for External Wi-Fi Adapter
	Socket for SD Card	■	■
	Power Consumption	DC 12V/1A	DC 12V/1A
	Dimensions	76.3(W) x 64(H) x 100(D)mm	76.3(W) x 64(H) x 100(D)mm
	Weight	390g	395g

H.264/MPEG-4/M-JPEG IP Camera

SP5562HSM Gaia 1.3Megapixel IP Camera	SP5563HFM Gaia Full HD IP Camera
1/3" Megapixel CMOS	1/2.5" Megapixel CMOS
Optional (M610, M611, M612, M613, M614) or CS Mount Lens	
1.0 Lux	0.2 lux
M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously	
SXGA, VGA, QVGA, QQVGA	QXGA, UXGA, SXGA, XGA, SVGA, VAG, QVGA, QQVGA 1080P, 720P
Up to 15fps @ SXGA, 30fps @ VGA	21fps @ QXGA 30fps @ 16:9 1080P
Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay	
-	-
2-way (Audio In/Out)	2-way (Audio In/ Out) High sensitive microphone
Audio In/Out : ADPCM	
Digital Input x1, Digital Output x1	
TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP,FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP	TCP/IP, UDP, DHCP, PPPoE, HTTP, HTTPS, DNS, DynDNS, NTP, FTP, SMTP, UDP, RTP, RTSP, RTCP, ICMP, 3GPP, UPnP, SIP, IPv4/v6, SAMBA client (NAS)
■	■
USB Port for External Wi-Fi Adapter	USB Port for External Wi-Fi Adapter
■	■
DC 12V/1A	DC 12V/1A
76.3(W) x 64(H) x 100(D)mm	76.3(W) x 64(H) x 100(D)mm
400G	400G

Video Management Software

Micronet IP Surveillance solution comes with the professional 36CH video management software which allows a single PC to manage up to 36 IP cameras and video servers. The software includes real time video monitoring, recording, playback, event alert management functionalities and so on.

**Software Development Kit (SDK)**

With high compatibility and scalability, Micronet Software Development Kit efficiently reduces the integration cost and effort, allowing users to easily integrate Micronet IP Cameras with CGI, ActiveX, DLLs, static and dynamic libraries on Windows and Linux OS. Sample code is provided to present straightforward user experience.

Outdoor Box IP Camera

H.264/MPEG-4/M-JPEG IP Camera

- ① Automatic Defogging Glass
- ② IP66 Pressure Die-cast Aluminum Housing
- ③ Super Power IR LEDs
- ④ Mounting Bracket
- ⑤ Power Cord
- ⑥ RJ-45 Ethernet with LED indicators
- ⑦ Line Out audio jack
- ⑧ Digital In/Digital Out terminal
- ⑨ Line in audio jack



Model No. Description	SP5571HDC Gaia Outdoor Box IP Camera	SP5572HDC Gaia Outdoor Box IP Camera
Sensor & Lens	<p>Image Sensor</p> <p>Lens Type</p> <p>Minimum Illumination</p>	<p>1/3" SuperHAD Q1 SONY CCD</p> <p>Vari-focal 3.8-9.5mm, ED</p> <p>0.1 Lux (IR Off)/0 Lux (IR On)</p>
Video & Audio	<p>Compression Format</p> <p>Image Resolution</p> <p>Frame Rate</p> <p>Image Setting</p> <p>Horizontal Resolution</p> <p>Audio Support</p> <p>Audio Compression</p>	<p>M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously</p> <p>D1, CIF, QCIF</p> <p>Up to 30fps (NTSC)/25fps (PAL) @ D1</p> <p>Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay</p> <p>540 TV Lines</p> <p>2-way (Audio In/ Out)</p> <p>Audio In: ADPCM/Audio Out: MP3</p>
System	<p>Alarm Input/Output</p> <p>Day & Night</p> <p>Network Protocol</p> <p>PoE Support</p>	<p>Digital In x 1, Digital Out x 1</p> <p>Build in IR LED, Range up to 40M</p> <p>TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP</p> <p>-</p>
Others	<p>Protection Class</p> <p>Power Consumption</p> <p>Dimension</p> <p>Weight</p>	<p>IP66</p> <p>AC 24V or 90~240V Power Input : 4A Rating Current</p> <p>120(W) x 115(H) x 215(D) mm</p> <p>3700g</p>

H.264/MPEG-4/M-JPEG IP Camera

SP5573HDC Gaia Outdoor Box IP Camera	SP5574HDC Gaia Outdoor Box IP Camera	SP5575HDC Gaia Outdoor Box IP Camera
1/3" SuperHAD Q1 SONY CCD	1/3" SONY SuperHAD CCD	
Vari-focal 9-22mm, ED	Fixed 25mm	External Adjustable Vari-focal 9-22mm
0.1 Lux (IR Off)/0 Lux (IR On)	0.06 Lux (IR Off)/0 Lux (IR On)	
M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously		
D1, CIF, QCIF		
Up to 30fps (NTSC)/25fps (PAL) @ D1		
Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay		
540 TV Lines	520 TV Lines	520 TV Lines
2-way (Audio In/ Out)	2-way (Audio In/ Out)	2-way (Audio In/ Out)
Audio In: ADPCM/Audio Out: MP3		
Digital In x 1 , Digital Out x 1		
Build in IR LED, Range up to 80M	Build in IR LED, Range up to 50M	Build in IR LED, Range up to 35M
TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP		
-	■	■
IP66	IP66	IP66
AC 24V or 90~240V Power Input : 4A Rating Current	12V DC 1.25A	12V DC 1.25A
120(W) x 115(H) x 215(D) mm	90Ø(W) x 109 (H) x 257 (L)	113(W) x 99(D) x 250(H) mm
3700g	1900g	2500g

Fixed Dome IP Camera

H.264/MPEG-4/M-JPEG IP Camera



- ① Vandal-proof Housing
- ② IR LED
- ③ Power Cord
- ④ RJ-45 Ethernet with LED Indicators

Model No. Description	SP5581HDC Gaia Fixed Dome	SP5582HSM Gaia 1.3Megapixel Fixed Dome
Sensor & Lens	Image Sensor	1/3" High Res. CCD+ SONY 11X DSP
	Lens Type	Vari-focal 3~9mm
	Minimum Illumination	0.05 Lux (IR Off), 0 lux (IR On)
	Pan/Tilt	3-Axis Design
Video & Audio	Compression Format	M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously
	Image Resolution	D1, CIF, QCIF
	Frame Rate	Up to 30fps (NTSC)/25fps (PAL) @ D1
	Image Setting	Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay
System	Horizontal Resolution	520 TV Lines
	Audio Support	2-Way (Audio In/Out)
	Build in MIC	-
	Audio Compression	Audio In/Out: ADPCM/ MP3
Others	Alarm Input/Output	Digital In x 1 , Digital Out x 1
	Day & Night	Build in IR LED, Range up to 20M
	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP,FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP
	PoE Support	■
Others	Protection Class	IP66
	Power Consumption	LED on: DC12V/610mA LED off: DC12V/410mA
	Dimension (mm)	136 () x 106 (H)
	Weight	925g



- ① RJ-45 Ethernet Cable
- ② Power Adapter Connector
- ③ Audio Line Out

SP5583HVM
Gaia Mini Compact Dome

1/4" Low-Light
Sensitive CMOS

Fixed 3.6mm

0.5 Lux

90° Pan/10° Tilt adjustable

M-JPEG, MPGE-4, H.264
Dual Streams Simultaneously

VGA, QVGA, QQVGA

Up to 30fps @ VGA

Compression, Contrast,
Brightness, Saturation,
Hue, and Image Overlay

-
2-Way (Audio In/Out)



Audio In/Out : ADPCM

Digital In x 1 , Digital Out x 1



TCP/IP, DHCP, PPPoE, HTTP,
DDNS, NTP, FTP, SMTP, UDP,
RTP, RTSP, 3GPP, UPnP



DC12V/1A

114 () x 39 (H)

335g

Safely Guarding All Environments by the Micronet IP Cameras with PoE support

In many environments, requiring security guarding such as the parking garage, the power source is not available for the IP Cameras. Many models of Micronet IP cameras are equipped with PoE support, and thus can accept the power delivered from the Ethernet cable. Micronet SP6005P4 is a high power PoE switch, an idea solution to deliver the power to the Powered Devices such as the Micronet IP cameras.

SP5583HVM's mini size design can be integrated into any location for monitoring, especially while interior design is performed during initializing stage.



SP5582HSM provides 1.3 mega-pixels high-resolution quality. It offers color vision in day time and monochrome vision at complete darkness environment. With 1.3 Megapixel CMOS sensor, and up to 20 meter high-light IR LED. SP5582HSM IP Camera provides great performance at the dark space.

Speed Dome



Model No. Description		SP5553HDC-18 Gaia Speed Dome
Sensor & Lens	Image Sensor	1/4" SONY Ex-view CCD
	Lens Type	Vari-focal 4.1mm~73.8mm, F1.4 to F3.0
	Minimum Illumination	0.01 Lux
	Pan/Tilt	360°Continous Pan Rotation/ 90°Scan Range/180° Auto Flip
	Zoom Ratio	18xOptical/12xDigital
Video & Audio	Compression Format	M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously
	Image Resolution	D1, CIF, QCIF
	Frame Rate	Up to 30fps (NTSC)/ 25fps (PAL) @ D1
	Image Setting	Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay
	Horizontal Resolution	480 TV Lines
System	Audio Support	2-Way (Audio In/Out)
	Audio Compression	Audio In/Out: ADPCM / MP3
	Alarm Input/Output	Digital In x 1 , Digital Out x 1
	Day & Night	Build in IR cut filter
	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP
Others	Protection Class	-
	Power Consumption	DC 12V/2.50A
	Dimension (mm)	218 (W) x 247 (H)
	Weight	7kg

H.264/MPEG-4/MJPEG

- ① Pan/Tilt/Zoom
- ② Digital in/Digital Out terminal
- ③ Power Cord
- ④ RJ-45 Ethernet with LED Indicator

- ① RJ-45 Ethernet with LED Indicator
- ② Power Cord
- ③ Digital in/Digital Out terminal
- ④ Pan/Tilt/Zoom

SP5553HDC-26
Gaia Speed Dome

1/4" SONY Ex-view CCD

Vari-focal 3.5mm~91mm
F1.6 to F3.8

0.01 Lux

SP5554HDC-18
Gaia Speed Dome

1/4" SONY Ex-view CCD

Vari-focal 4.1mm~73.8mm,
F1.4 to F3.0

0.01 Lux

SP5554HDC-26
Gaia Speed Dome

1/4" SONY Ex-view CCD

Vari-focal 3.5mm~91mm
F1.6 to F3.8

0.01 Lux

360°Continous Pan Rotation/90°Scan Range/180° Auto Flip

26xOptical/12x Digital

18xOptical/12xDigital

26xOptical/12x Digital

M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously

D1, CIF, QCIF

D1, CIF, QCIF

D1, CIF, QCIF

Up to 30fps (NTSC)/25fps (PAL) @ D1

Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay

480 TV Lines

2-Way (Audio In/Out)

Audio In/Out: ADPCM / MP3

Digital In x 1 , Digital Out x 1

Build in IR cut filter

TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP

-

IP66

DC 12V/2.50A

218 (W) x 247 (H)

220 (W) x 262 (H)

7kg

7kg

Video Server

H.264/MPEG-4/M-JPEG



- ① 10/100 Ethernet Port
- ② USB Config Port
- ③ BNC Video Input
- ④ RS-485 PTZ Camera Control



- ① Audio Line In/Out
- ② Mini-Din I/O Socket
- ③ USB Config Port
- ④ USB Host Wi-Fi Support

	Model No. Description	SP5711HD Gaia 1CH Video Server	SP5711HDA Gaia 1CH Video Server with Audio
Interface	Video Input	1CH, NTSC/PAL, BNC Connector	
	Image Resolution	D1, CIF, QCIF	
	Compression Format	M-JPEG, MPGE-4, H.264 Dual Streams Simultaneously	
	Frame Rate	Up to 30fps (NTSC)/25fps (PAL) @ D1 Resolution	
	Audio Support	-	2-Way
System	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP	
	802.11b/g Wi-Fi Support	-	USB Port for External Wi-Fi Adapter
	Pan / Tilt / Zoom Protocols	Pelcop, PelcoD, DynaColor, Merit_Lilin, Visca, Transparent	
	Network Connector	RJ-45 Ethernet 10Base/100Base TX	
	Serial Connector	RS-485	
Others	Alarm Input/Output	-	Digital In x 1, Digital Out x 1
	Alarm Events	File/Clip Upload via FTP and Email, Notification via Email, External Output Activation	
	Alarm Trigger	Periodic Timer, Motion Detection, Video Loss, Power Loss, Network Loss	
	Video Buffer	Up to 10 sec	
	Motion Detection	3 x 3 Configurable Areas	
Others	Power Consumption	DC 12V/1A	
	Dimension	61(W) x 31(H) x70(D) mm	
	Weight	170g	
	Housing	Robust Aluminum Mechanical Design	

Optional



C530 1U/ 19" rack mount kit for SP5711 Series Video Server, capacity: 6 units



M610 CS Mount, 1/3" DC-Iris lens, 2.9~8.2mm, F1.0



M611 CS Mount, Manual-iris Vari-focal Lens for 1/3" & 1/4" sensor, 3~8mm, F1.4



M612 CS Mount, Fixed Lens for 1/4" sensor, 4mm, F2.0



M613 CS Mount, Fixed Lens for 1/3" & 1/4" sensor, 6mm, F2.0



M614 CS Mount, Fixed Lens for 1/3" & 1/4" sensor, 8mm, F2.0



Print Server

In printing product field, computers multifunction printers have been talked about to a great extent in the last couple of years. The very fact that multifunction printers have printer, copier and scanner all enclosed in the same unit offers a powerful combination of functionality and compactness. These especially are great for small businesses or home-based offices that cannot afford to buy separate printers, copiers and scanners for their daily requirements; and multifunction print server can optimize the benefit by sharing the multifunction printer to all network users.

Micronet is committed to improving print server of stability and compatibility. Our new version multifunction print server, SP781/SP781W, is fully compatible with the top 5 multifunction printer in the market nowadays. Furthermore, based on service to customers, Micronet will keep going on releasing improved product, the best performances/cost rate solution, to accomplish the best resources shared solution to network constructors.



Print Server

Single Port Print Server



- ① LED Indicator
- ② Centronics Printer Port
- ③ Reset Button
- ④ 10/100M RJ-45 LAN Port



- ① LED Indicator
- ② Reset Button
- ③ 10/100M RJ-45 LAN Port
- ④ USB Printer Port

Model No. Description		SP755D 1P Print Server	SP756 1U Print Server
Interface	STD	IEEE 802.11n Compliant	-
		10/100Mbps LAN Port, RJ-45	■
		USB Printer Port (USB 2.0)	-
		Parallel Printer Port	1
		Antenna Connector Type	-
		Reset Button	■
Function	Scan	-	-
	Print	■	■
	Memory Card Reader	-	-
	Fax	-	-
OS Support	MFP Print Server OS Support	-	-
	Print Server OS Support	Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux/Unix	
	LPR Printing	Unix	
Printing Model	IPP Printing	Windows 2000/XP/Vista/7, Linux/Unix	
	Raw Printing	Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux	
	Unix Logical Printing	Unix	
Protocol	TCP/IP	■	■
	IPX/SPX	■	■
	NetBEUI	■	■
Others	Apple Talk	■	■
	Web-based Management	■	■
	Utility	■	■
Power		DC 7.5V 0.5A	DC 7.5V 0.5A

MFP Print Server

- ① LED Indicator
② USB Printer Port
③ Parallel Printer Port
④ 10/100M RJ-45 LAN Port



- ① LED Indicator
② Reset Button
③ 10/100M RJ-45 LAN Port
④ USB Printer Port



- ① LED Indicator
② Reset Button
③ 10/100M RJ-45 LAN Port
④ Detachable Antenna (R/SMA)

SP766 2U1P Print Server	SP781 MFP Print Server	SP781W Wireless MFP Print Server
-	-	■
■	■	■
2	1	1
1	-	-
-	-	R/SMA x 1
■	■	■
-	■	■
■	■	■
-	■	■
-	■	■
-	■	■
Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux/Unix	Unix	Windows 2000/XP/Vista/7
Windows 2000/XP/Vista/7, Linux/Unix	Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux	Unix
DC 12V 1A	DC 7.5V 0.5A	DC 5V, 1A

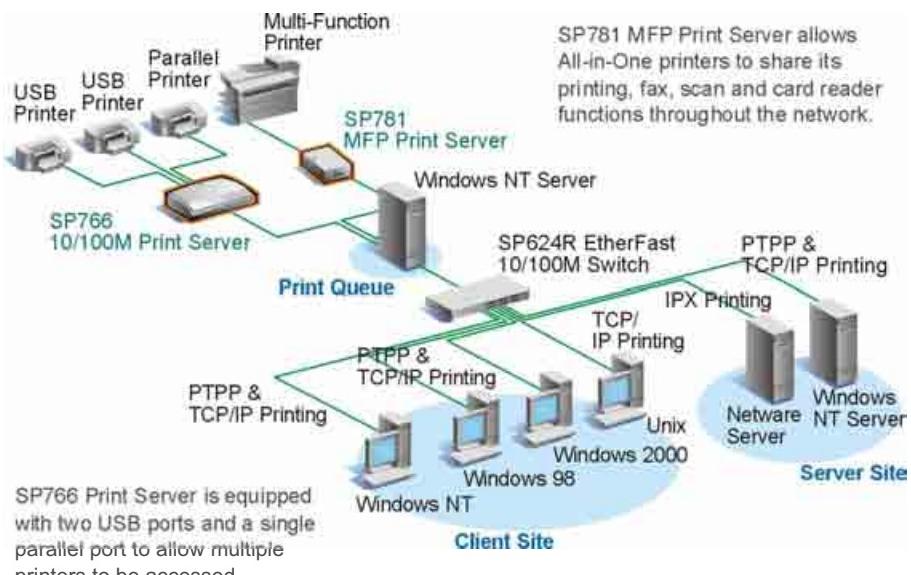
Networking Printers for Efficient Resource Sharing in Office Environment

Network printing has become the essential of all office infrastructures to improve the efficiency of working environments. The optimal print server solution needs to adapt to all common client-server operating systems.

Micronet's print servers are designed to be compatible with all major OS: Windows NT/95/98/2000/XP/Vista/7/Unix/Linux, MAC OS & NetWare. Furthermore, the print servers will accept various networking protocol from different OS: TCP/IP, IPX/SPX, NetBEUI and AppleTalk.

The figure shown below is a network with multiple print servers in office. By installing a PTPP (Peer-to-Peer Printing) driver into Windows Servers (NT/2000/2003), advanced features like print queue and user management become available to enhance the management of network printing.

By implementing Micronet Print Servers in the office networks, printers can be shared by different departments efficiently. People can print at any location in the office to any destination printer.





Structured Cabling

Micronet provides full range of cables to accomplish the quality network linkage, ranging from Cat.5/Cat.6 copper to single-mode/multimode fiber cables. The Copper Wire Family provides shielded/unshielded cable for different network environment. Fiber-Optic Patch Cord Family provides Multimode and Single-Mode patch cords, with various combination of SC and LC connectors to fulfill the common fiber network application.



Copper Cable

UTP Cable



Model No. Description		SP1101E UTP Cat.5e Cable	SP1101S UTP Cat.6 Cable
Structure	Category	Cat.5e	Cat.6
	Cable Type	UTP	UTP
	Conductor Type	Solid	Solid
	Number of Twist Pair	4	4
Standard	AWG (American Wire Gauge) Number	24	24
	Fire Retardant Grade	75°C	75°C
	Wiring Standard* ¹	TIA/EIA-568B.2	TIA/EIA-568B.2-1
	Length (Meter)	100/305* ²	100/305* ³
Certification		E142890/UL	E142890/UL

Note: 1. TIA/EIA-568B.2-1 is the appendix of TIA/EIA-568B.

The standard rules Cat.6 wiring system must be backward compatible with Cat.3, Cat.5 and Cat.5e cables.

2. SP1101E-100/305: UTP Cat.5e Cable, 100/305 Meters
3. SP1101S-100/305: UTP Cat.6 Cable, 100/305 Meters
4. SP1103E-100/305: FTP Cat.5e Cable, 100/305 Meters
5. SP1103S-100/305: FTP Cat.6 Cable, 100/305 Meters
6. SP1102E-1/2/3/5/10/20/30: UTP Cat.5e Patch Cable, 1/2/3/5/10/20/30 Meters
7. SP1102S-1/2/3/5/10/20/30: UTP Cat.6 Patch Cable, 1/2/3/5/10/20/30 Meters

FTP Cable		UTP Patch Cable		Structured Cabling	
					
SP1103E FTP Cat.5e Cable	SP1103S FTP Cat.6 Cable	SP1102E UTP Cat.5e Patch Cable	SP1102S UTP Cat.6 Patch Cable		
Cat.5e	Cat.6	Cat.5e	Cat.6		
FTP	FTP	UTP	UTP		
Solid	Solid	Stranded	Stranded		
4	4	4	4		
24	23	24	24		
75°C	75°C	75°C	75°C		
TIA/EIA-568B.2	TIA/EIA-568B.2-1	TIA/EIA-568B.2	TIA/EIA-568B.2-1		
100/305 ⁴	100/305 ⁵	1/2/3/5/10/20/30 ^{6,7}			
E142890/UL	E142890/UL	E142890/UL			

Patch Panel & Wall Socket

Cat.5e Patch Panel



Model No. Description		SP1161 24-Port Patch Panel
Structure	Category	Cat.5e
	Port Number	24
	Jack	Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated
	Terminal Block	110 & Krone Tool Compatible Used for 22-26 AWG Stranded and Solid Wire Phosphor Bronze with 50 micro-inch Tin-lead Plated over 50-60 Micro-inch Nickel Plated
	Jack Bracket Set	ABS+PC, UL94V-0
	Dimension, W x D X H (mm)	43 x 483 x 52

Patch Panel & Wall Socket

Cat.5e Wall Socket



Model No. Description		SP1162A-1 Cat. 5e Wall Socket
Structure	Category	Cat.5e
	Port Number	1
	Jack	Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated
	Terminal Block	110 & Krone Tool Compatible Used for 22-26 AWG Stranded and Solid Wire Phosphor Bronze with 50 micro-inch Tin-lead Plated over 50-60 Micro-inch Nickel Plated
	Jack Bracket Set	ABS+PC, UL94V-0
	Dimension, W x D X H (mm)	80 x 80 x 37

Cat.5e Patch Panel**Cat.6 Patch Panel**

SP1165
48-Port Patch Panel

SP1161S
24-Port Patch Panel

SP1165S
48-Port Patch Panel

Cat.5e
48

Cat.6
24

Cat.6
48

Phosphor Bronze with 50 Micro-inch Nickel Plated
Contact Area: Min. 30 Micro-inch Gold Plated

110 & Krone Tool Compatible Used for 22-26 AWG Stranded and Solid Wire
Phosphor Bronze with 50 micro-inch Tin-lead Plated over 50-60 Micro-inch Nickel Plated

ABS+PC, UL94V-0

88 x 482 x 52

43 x 483 x 52

88 x 482 x 52

Cat.5e Wall Socket**Cat.6 Wall Socket**

SP1162A
Cat. 5e Wall Socket

SP1162S-1
Cat. 6 Wall Socket

SP1162S-2
Cat. 6 Wall Socket

Cat.5e
2

Cat. 6
1

Cat. 6
2

Phosphor Bronze with 50 Micro-inch Nickel Plated
Contact Area: Min. 30 Micro-inch Gold Plated

110 & Krone Tool Compatible Used for 22-26 AWG Stranded and Solid Wire
Phosphor Bronze with 50 micro-inch Tin-lead Plated over 50-60 Micro-inch Nickel Plated

ABS+PC, UL94V-0

80 x 80 x 37

Fiber-Optic Cable

Multimode



- ① Multimode Fiber
② Multimode SC Connector

Single-mode



- ① Single-mode Fiber
② Single-mode SC Connector
③ Single-mode LC Connector

Model No. Description	SP1105A/SP1106A/SP1107A Multimode Fiber Patch Cord	SP1105B/SP1106B/SP1107B Single Mode Fiber Patch Cord
Structure	Cable Type	Multimode, Zipcord
	Diameter (Core/Cladding)	62.5/125 um
	Connector	SC-SC/SC-LC/LC-LC
	Cable Length (Meter)	By Order
Property	Color of Jacket	Orange
	Operating Wavelength	850nm/1310nm
	Maximum Fiber Attenuation (dB/km)	≤ 3.5 (850 nm) ≤ 1.5 (1310 nm)
	Eccentricity of Curvature(um)	< 50



Network Interface Adapter

Micronet provides a full range of cost-effective and reliable network adapters to accomplish the quality of network linkage, ranging from fast Ethernet adapter to Gigabit adapter. Besides, Micronet also provides Powerline products for digital home solution. The Powerline Bridge can directly turn existing electrical wire into a network and connect all divided wired/wireless network together. Through HomePlug AV technology, the Powerline Bridge is able to provide high data rate of up to 200Mbps to deliver real-time audio/video streaming for digital home entertainment, such as IPTV, online gaming etc.



Network Adapter		Network Interface Adapter		
Model No. Description	10/100M Ethernet Adapter	SP2500RS	SP2612R	SP2612E
		IEEE 802.3, IEEE802.3u	■	■
Standard	IEEE 802.3ab	-	■	■
	IEEE 802.3x (Full Duplex Flow Control)	■	■	■
	Bus Type	32-bit PCI	32-bit PCI	PCI Express
Hardware	10/100Mbps LAN Port, RJ-45	■	-	-
	10/100/1000Mbps LAN Port, RJ-45	-	■	■
	Data Rate	10/100M, Auto-Negotiation	10/100/1000M, Auto-Negotiation	
Software	BootROM Socket	■	-	-
	Driver Support	Windows 2000/ XP/Vista/7, Linux, SCO Unix, Mac OS	Windows 2000/ XP/Vista/7, Linux	Windows 2000/ XP/Vista/7

Powerline Bridge

85M Powerline



- ① LED Indicator
- ② Power Plug
- ③ 10/100M RJ-45 Port

200M Powerline



- ① LED Indicator
- ② Power Plug
- ③ 10/100M RJ-45 Port

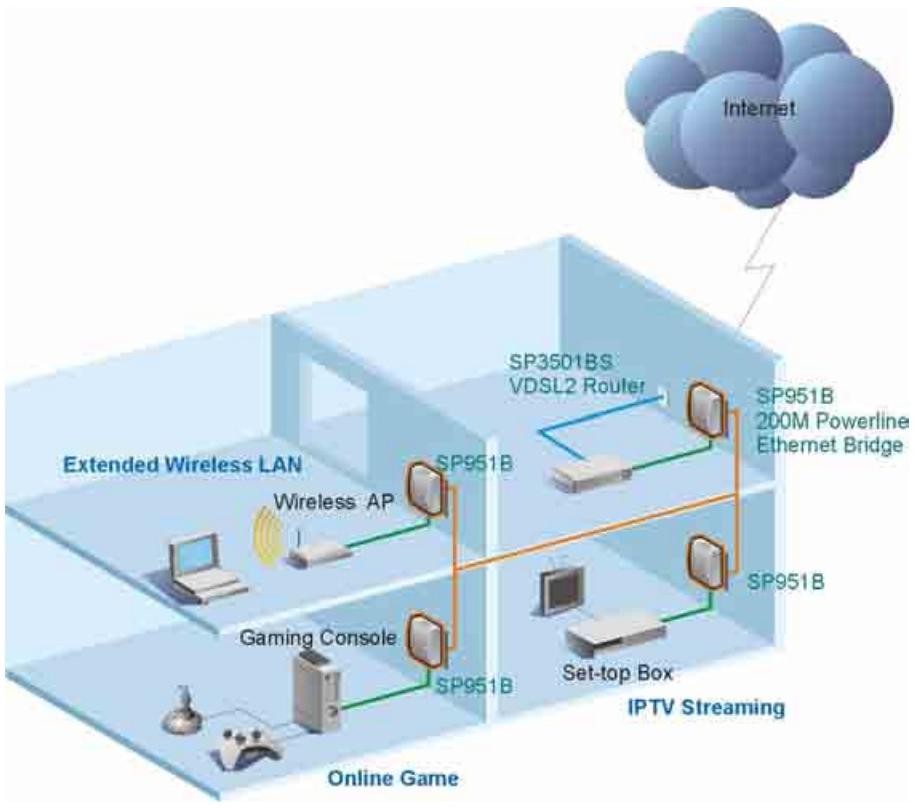
Model No. Description		SP951A 85M Powerline Ethernet Bridge	SP951B 200M Powerline Ethernet Bridge
Standard	HomePlug AV Compliance	—	■
	HomePlug 1.0 Compliance	■	—
Powerline	Modulation	OFDM (QAM 16/64/256, DBPSK, DQPSK)	OFDM (QAM 8/16/64/256/1024,QPSK, BPSK, ROBO)
	Frequency Band	4.3 - 20.9MHz	2 - 28MHz (with Mask)
	Data Rate	85Mbps	200Mbps
	Max. Distance (between Nodes)	300 Meters	300 Meters
	Max. Node (per Network)	16	64
	Security	56-bit DES Encryption	128-bit AES Encryption
QoS	CoS/ToS Packet Classifier	—	■
	CSMA/CA Priority-based Access	—	4 Priority Levels
	TDMA Contention-free Access for Digital Video	—	Guaranteed Bandwidth, High Reliability Tight Control of Latency and Jitter
Others	Multicasting	—	IPv4: IGMP v1/v2/v3 Snooping IPv6: MDL v1/v2 Snooping
	OS Support for Utility	Window 98SE/Me/NT/2000/XP/Vista/7, MAC OS, Linux	
	Power	AC 100 - 240V, 50/60Hz	
	Dimension, W x D x H (mm)	96 x 69 x 29	96 x 69 x 29

Note: No breaker is allowed between any two powerline nodes.

Product specification is subject to change without prior notice.

Networking Home PCs via Existing Powerline

SP951B Powerline Ethernet Bridges directly turn existing electrical wiring into a network and connect all divided wired/wireless networks together. With HomePlug AV technology, SP951B provides high data rate up to 200Mbps to deliver real-time audio/video streaming for digital home entertainment, such as IPTV, online gaming and audio/video sharing, etc.



- VDSL2
- Powerline
- 10/100M
- WLAN



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Global Service and Support

Micronet service and support team works closely to help customers solve problems quickly and with satisfactory results. Micronet listens attentively to our customers and keeps providing a complete global support with worldwide reach. Today, Micronet products are distributed across over 100 countries. As a Micronet distributor, reseller, system integrator or any type of partners, the distribution channels all over the world provide you instant delivery and satisfactory support in planning and utilizing Micronet products. In addition, you can also learn more up-to-date product information, technical support, or consult with Micronet professionals about planning your network.

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SP6052WS	11	SP6524A	15	SP915A	76		
SP605K	6	SP6524F	15	SP915M	77		
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SP6105I	29	SP676C	9	SP915P	75		
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